ELECTRICAL OPERATING AND MAINTENANCE MANUAL

79 THOMAS STREET // DECEMBER 2011

A&B ELECTRICAL SERVICES

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SECTION 1 INTRODUCTION
SECTION 2 DESCRIPTION OF SYSTEMS
SECTION 3 SCHEDULE AND ILLUSTRATION OF LIGHTING FITTINGS
SECTION 4 SCHEDULE AND ILLUSTRATION OF ACCESSORIES
SECTION 5 SCHEDULE OF MANUFACTURERS
SECTION 6 MAINTENANCE PROCEDURES
SECTION 7 INSPECTION OF COMPLETION CERTIFICATES
SECTION 8 AS FITTED DRAWINGS

SECTION 1 // INTRODUCTION

A&B ELECTRICAL SERVICES

A&B ELECTRICAL SERVICES

THANK YOU FOR CHOOSING A&B ELECTRICAL SERVICES (UK) LTD

This manual contains information to enable the staff at 79 Thomas Street, to operate and maintain the electrical services installation.

The services so described are those contained in the building after completion of the premises in December 2011.

The staff should recognise that these installations my be subject to subsequent amendment and should take such steps as are necessary that the information is updated to ensure safety of personnel.

SECTION 2 // DESCRIPTION OF SYSTEMS

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2.1 The electrical Installation within these premises consists of the following

- Mains Distribution
- General Lighting
- General Power
- Emergency Lighting
- Fire alarm
- Intercom
- Burglar alarm

2.2 Mains Distribution

The mains distribution has been split into Landlords, Basement plus Ground, 1st floor and 2nd floor. The main intake point is in the basement and a switch fuse has been installed for each supply. This is then terminated into a single phase board on each floor.

2.3 General Lighting

For full details of light fittings reference can be found under section 3 of this manual.

The lighting in the office area has been wired in 1.5 T&E cable above the ceiling, the cable is then terminated into a plug in rose.

The lights are controlled by switches in the offices and PIR detectors in the corridor areas.

All fittings are from the Dextra range.

2.4 General Power

The power installation in the office area is made up of 2.5 T&E cable wired through the fabric of the building and into 3 compartment Mita skirting trunking.

The wiring is terminated at a socket outlet or a fused spur. MK accessories have been used throughout.

RCD protection has been installed on the sockets.

2.6 Emergency Lights

The emergency lights are integral to the light fittings that have been installed. Running man exit signs have also been installed as per the new drawing.

2.7 Fire Alarm

The new fire alarm is a conventional system using fire proof red cable, the manufacturer is Firesafe and accessories have been installed as per the drawing.

2.8 Intercom

A new video intercom has been installed to serve the floors and is connected to the front door.

2.9 Burglar alarm

Anew wireless burglar alarm has been installed to serve the ground floor, a GSM autodialler has been fitted so to create a dedicated mobile phone line for the occupants use.

SECTION 3 // SCHEDULE AND ILLUSTRATION OF LIGHTING FITTINGS

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3.1 Description

Dextra duet	5149/E3
protec	PTECM226HF/E3
discalo	DSC155/M3
dropglass	PTECMDG
graduate	GRDT5149E3TPA
amec	138WPHF
Philips exit box	POOO766/005EM
Luxonic recessed exit sign	LEDX/R/M3/WH/PO
Tamlite 5ft twin	TLX258
Eterna PIR	PIRFM360

Pro Tec

Compact fluorescent downlighting has given rise to a new way of thinking when lighting areas such as retail stores, receptions and general circulation areas. With this trend showing no signs of slowing down the timely introduction of the Pro Tec range offers innovation with a catalogue of options, allowing you to select the downlight best suited to your requirements.

Versatility

The Pro Tec offers an impressive DLOR, ideal for retail stores where technical performance is as important as style. With the emergence of the image conscious work place downlighting is now making its mark on the commercial sector. For office environments the Pro Tec Large, in an open format, will achieve a 65° cut off as advised by LG3 2001. Three body sizes offer a wealth of different lamp options, varying in wattages and configurations. To deliver complete versatility the Pro Tec offers a host of attachment options, from IP44 rated glass covers for harsher environments, through to the attractiveness of the drop glass ring.

Pro Tec

WESSEX HOUSE - BATH UNIVERSITY

Quality

All luminaires within the Pro Tec range are UK manufactured in line with BS EN 60598. The body is made from quality steel whilst the reflector is made from highly reflective, faceted aluminium. European control gear and components finish the Pro Tec luminaire to a high specification. Three point stabilising clips secure the body to the back of the ceiling tile when in-situ, whilst an extra support arm will hold the weight of the gear housing on the medium and large versions.

Options

There are three body sizes with a fourth wallwash option. They are coded as follows:

PTECV	–	Vertical
PTECM	–	Medium Horizontal
PTECL	–	Large Horizontal
PTECLWW	–	Large Wallwash

All are with either high frequency control gear or one of a number of dimming options, from 1-10v analogue through to various digital alternatives. The PTECM is also offered as a switch start option if required.

The following page will introduce you to a wealth of attachments all of which twist and lock securely into place. With the exception of the Wallwash all Pro Tec luminaires can incorporate a remote 3 hour maintained emergency pack.

Pro Tec

TRIDENT HOUSE - LIVERPOOL

Clear Glass

Opal Glass

Patterned Glass

Turbo Louvre

Dark Light Louvre

Drop Glass

Drop Glass Ring

Emergency Drop Legend

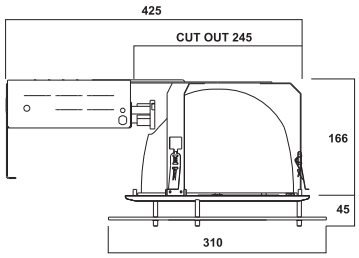
Pro Tec

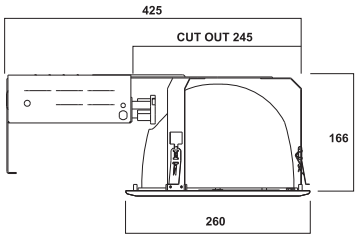
A Size

Order Code	Description	Lamps	Weight (kg)*
VERTICAL (high frequency as standard)			
PTECV 113 HF	Vertical Downlight	1 x 13w TC-DE	TBA
PTECV 118 HF	Vertical Downlight	1 x 18w TC-DE	TBA
PTECV 126 HF	Vertical Downlight	1 x 26w TC-DE	TBA
HORIZONTAL MEDIUM (switch start as standard)			
PTECM 118	Horizontal Downlight	1 x 18w TC-D*	TBA
PTECM 126	Horizontal Downlight	1 x 26w TC-D*	TBA
PTECM 132 HF	Horizontal Downlight	1 x 32w TC-TE	TBA
PTECM 142 HF	Horizontal Downlight	1 x 42w TC-TE	TBA
PTECM 218	Horizontal Downlight	2 x 18w TC-D*	TBA
PTECM 226	Horizontal Downlight	2 x 26w TC-D*	TBA
HORIZONTAL LARGE (high frequency as standard)			
PTECL 126 HF	Horizontal Downlight	1 x 26w TC-TE	TBA
PTECL 132 HF	Horizontal Downlight	1 x 32w TC-TE	TBA
PTECL 142 HF	Horizontal Downlight	1 x 42w TC-TE	TBA
PTECL 226 HF	Horizontal Downlight	2 x 26w TC-TE	TBA
PTECL 232 HF	Horizontal Downlight	2 x 32w TC-TE	TBA
PTECL 242 HF	Horizontal Downlight	2 x 42w TC-TE	TBA
WALLWASH LARGE			
PTECLWW 226 HF**	Wallwash Downlight	2 x 26w TC-DE	TBA

*TC-DE Lamp with High Frequency and / or emergency version
**Not available in emergency. Supplied complete with white trim
All fittings exclude lamps. A minimum gap above the installed fitting of 50mm is required
Please contact our Sales Team on 01747 858100 for IP65 options

Horizontal Large





B Control

HF	High Frequency
HFR	High Frequency Dimming (Analogue 1-10v)
SD(E)	Digital Dimming Switch Dim (ECO)
DSI(E)	Digital Dimming DSI (ECO)
DSI(X)	Digital Addressable Lighting Interface (DALI)

C Emergency

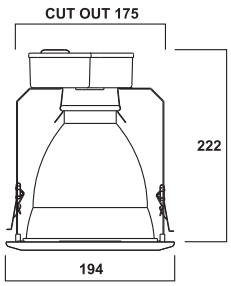
E3	3 Hour Maintained Emergency Pack (Remote)
ST3	Self Test
AT3	Auto Test

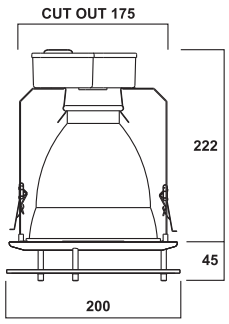
D Attachments - Must be ordered at the same time as fitting

PTEC* WR	White Ring (Use for open fitting)
PTEC* CR	Chrome Ring
PTEC* GR	Gold Ring
PTEC* CG	Clear Glass IP44**
PTEC* PG	Patterned Glass
PTEC* OG	Opal Glass IP44
PTEC* DG	Drop Glass
PTEC* DG BLUE	Blue Drop Glass
PTEC* DGR	Drop Glass Ring
PTEC* DGR BLUE	Blue Drop Glass Ring
PTEC* DL4	Dark Light Louvre (Not available on Vertical)
PTEC* TL	Turbo Louvre (Not available on Vertical)
PTEC* DMD	Emergency Drop Legend (Not available on Vertical)

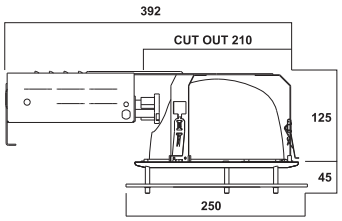
* Specify V, M or L for size.

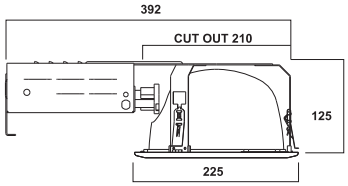
Vertical



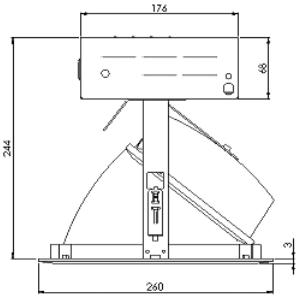


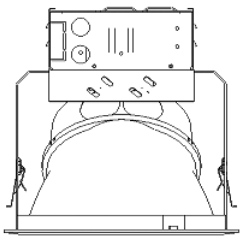
Horizontal Medium





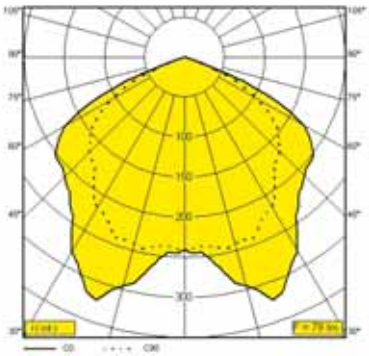
Wallwash





CE IP20

For further options please see the Dextra Lighting Options Guide, Pg 223-240.
For installation assistance see the Ceiling Compatibility Guide, Pg 249.



PTECM218WR**

Graduate

The Graduate is a high specification curved profile surface luminaire complete with prismatic/reeded polycarbonate diffuser, fully retained polycarbonate end caps and supplied with high frequency control gear as standard. It's low profile sectional design allows for installation with minimal impact on its environment.

Versatility

This range of luminaires is primarily used for educational establishments such as schools, colleges and universities, however it is also ideally suited to hospitals, care homes and general areas such as walkways. High frequency control gear is mounted on a quick release removable gear tray.

Quality

Cable entry holes and standard BESA fixings can be found along the centre line on the back of the luminaire body. Alternatively cable entry may be made through the end caps via pre-marked drill points. Manufactured in accordance with BS EN 60598 from high grade sheet steel, using European control gear and components.

Options

Although complete with high frequency control gear as standard some versions are available as a dimming option, from 1-10v analogue through to various digital variants. All luminaires come complete with TP(a) diffusers as standard. Emergency options are available. Fused as standard.

Graduate

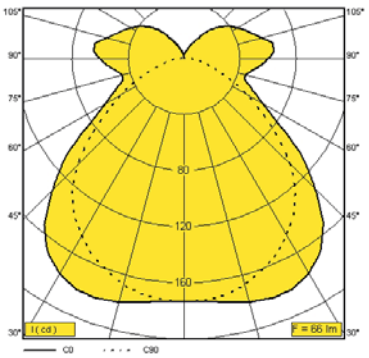
A Size

Code	Nominal Size	Lamps	Weight (kg)+	Dimensions (mm) A	B	C	D
Graduate							
GRD 136 HF TPA	1200 x 200	1 x 36w	4.20	1240	215	82	600
GRD 158 HF TPA	1500 x 200	1 x 58w	5.10	1540	215	82	1200/600
GRD 170 HF TPA	1800 x 200	1 x 70w	6.50	1810	215	82	1200/600
GRD 236 HF TPA	1200 x 200	2 x 36w	4.40	1240	215	82	600
GRD 258 HF TPA	1500 x 200	2 x 58w	5.30	1540	215	82	1200/600
GRD 270 HF TPA	1800 x 200	2 x 70w	6.80	1810	215	82	1200/600
GRDT5 128 TPA	1200 x 200	1 x 28w HE	4.10	1240	215	82	600
GRDT5 135/49 TPA	1500 x 200	1 x 35/49w HE	5.10	1540	215	82	1200/600
GRDT5 228 TPA	1200 x 200	2 x 28w HE	4.30	1240	215	82	600
GRDT5 235/49 TPA	1500 x 200	2 x 35/49w HE	5.30	1540	215	82	1200/600

Please specify wattage when ordering. Only T5 fittings are complete with lamps
Fused as standard
Suited to trunking mounting due to central fixing of control gear
IP40 available on request

B Control

HFR High Frequency Dimming (Analogue 1-10v)
SD(E) Digital Dimming Switch Dim (ECO)
DSI(E) Digital Dimming DSI (ECO)
DSI(X) Digital Addressable Lighting Interface (DALI)



GRD 258++

C Emergency

E3 3 Hour Maintained Emergency Pack (Integral) (Not available on HO option)
ST3 Self Test
AT3 Auto Test

D Attachments

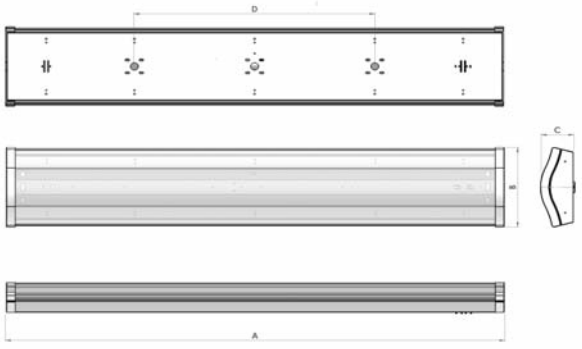
TPA Clear prismatic polycarbonate (TPa) diffuser is supplied as standard

E Extras

DS Double Switch
NL Night Light (Limited options)

CE IP20

For further options please see the Dextra Lighting Options Guide, Pg 223-240.



Discalo

A versatile high quality luminaire based around a T5 circular lamp. An impressive halo effect is achieved via an opal or blue back diffuser.
Suitable for internal use, the Discalo is designed for wall or ceiling mounting.

Versatility
Ideally suited to a variety of internal applications including: corridors, stairwells, reception areas and feature walls. Designed with self-cooling ventilation and 'installer friendly' twist and lock bayonet diffuser.

Quality
Manufactured from high quality Makrolon polycarbonate with high transmission opal diffuser.
Die cast aluminium base for efficient thermal performance.
All options come complete with lamp and are high frequency as standard.

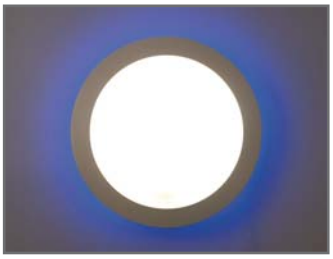
Options
Available in either a single lamp 40 or 55w version, with the option of integral emergency. Emergency options include 3 hour maintained self test and auto test.
Although complete with HF control gear as standard dimming options are available, from 1-10v analogue through to various digital varients.

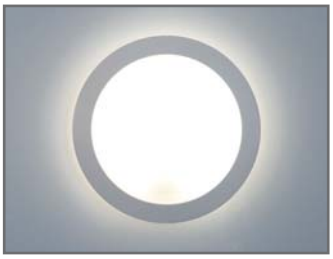
Discalo

A Size

Order Code	Nominal Size	Lamps	Weight (kg)+
DSC 140 T5C*	500 Dia	1 x 40w TL5-c	3.50
DSC 155 T5C*	500 Dia	1 x 55w TL5-c	3.50

All options complete with lamp.
Replace * with OP or BL suffix.





B Control

HFR	High Frequency Dimming (Analogue 1-10v)
SD(E)	Digital Dimming Switch Dim (ECO)
DSI(E)	Digital Dimming DSI (ECO)
DSI(X)	Digital Addressable Lighting Interface(DALI)

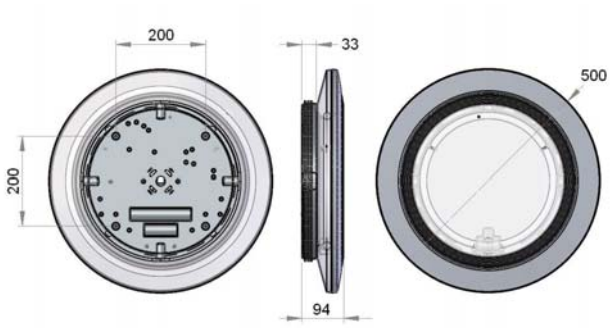
C Emergency

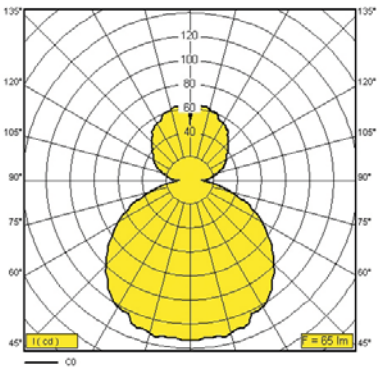
M3	3 Hour maintained emergency
ST3	Self Test
AT3	Auto Test

D Attachments

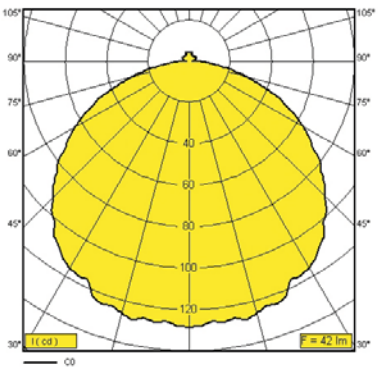
OP	Opal back diffuser
BL	Blue back diffuser

CE IP20





DSC 155 T5C OP LOR: 65%++



DSC 155 T5C BL LOR: 42%++

Amenity Plus

Not afraid to lead from the front the Amenity Plus range combines extensive research with cutting edge technology, to deliver a comprehensive solution to your amenity requirements. With a variety of robust body design options combined with an ability to be wall or ceiling mounted, there will always be an Amenity Plus product to match your requirements.

Versatility

Having undergone the most stringent of testing regimes, Amenity Plus have proved themselves worthy to deliver maximum efficiency in a wealth of amenity environments, such as schools, factories, walkways and car parks. Available in a variety of options relating to performance and aesthetics.

Amenity Plus

Square
Black Body/Opal Diffuser

Square
White Body/Prismatic Diffuser

Circular
Black Body/Opal Diffuser

Quality

All Amenity Plus fittings have been certified to IP65 rating as defined by BS EN 60598-1:2000. This rating goes above and beyond the commonly accepted BS EN 60529:1992 standard with a testing procedure that is far more onerous and as a result promotes the fitting to new levels in terms of ingress protection and reliability. As a result of heavy research into advanced luminaire design the Amenity Plus moulding and it's utilisation of leading edge electronics, allows us to offer a 16w 2D 3hr maintained product in the smaller sized body, a rarity in amenity lighting. Finally, to avoid compromising quality all luminaires employ European control gear as standard. Unlike many alternatives all Amenity Plus luminaires are supplied complete with lamps, retained screws and pre-installed seal in an effort to minimise on-site installation time.

Options

White or black body options coupled with the choice of prismatic or opal diffuser allows greater harmonisation with the surrounding environment. Through the introduction of a photocell the Amenity Plus bulkhead is opened up to the world of dusk-to-dawn control, whilst promoting energy efficiency. A hinged gear tray aids the installation process along with simplifying future maintenance. To offer complete installation flexibility all Amenity Plus luminaires have multiple fixing points, including Besa box entries on all. For more demanding environments metal bodies are available in 28 and 38w lampways.

Amenity Plus

SPRINGWOOD PRIMARY SCHOOL - LIVERPOOL

Amenity Plus

A Size

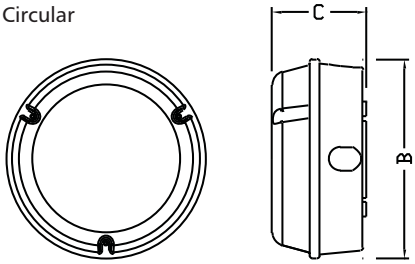
Order Code	Body Type	Lamps	Weight (kg)+	Dimensions (mm) A	B	C
Polycarbonate						
AMEC116** HF	Circular bulkhead	1 x 16w TC-DD	1.00	-	220	104
AMEC128** HF	Circular bulkhead	1 x 28w TC-DD	1.65	-	320	104
AMEC138** HF^	Circular bulkhead	1 x 38w TC-DD	1.50	-	320	104
AMES116** HF	Square bulkhead	1 x 16w TC-DD	1.10	220	220	104
AMES128** HF	Square bulkhead	1 x 28w TC-DD	2.00	320	320	104
AMES138** HF^	Square bulkhead	1 x 38w TC-DD	1.85	320	320	104
Aluminium						
AMEC128** HF MET	Circular bulkhead	1 x 28w TC-DD	1.65	-	320	104
AMEC138** HF MET	Circular bulkhead	1 x 38w TC-DD	1.50	-	320	104
AMES128** HF MET	Square bulkhead	1 x 28w TC-DD	2.00	320	320	104
AMES138** HF MET	Square bulkhead	1 x 38w TC-DD	1.85	320	320	104
Semi Recessing Bezel						
AMECS SRB	Small Circular	-	-	-	-	-
AMECL SRB	Large Circular	-	-	-	-	-
AMESS SRB	Small Square	-	-	-	-	-
AMESL SRB	Large Square	-	-	-	-	-

All fittings are complete with lamps

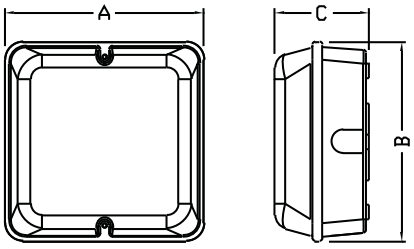
HF as standard, Switch Start available on request

** Add attachment suffix

Circular



Square



B Control

For dimming options please contact the Dextra Sales Team

C Emergency

M3 Maintained Emergency 3 Hour (available in HF only)

ST3 Self Test

^ Not available in M3

D Attachments

WP White Body Prismatic Diffuser

WO White Body Opal Diffuser

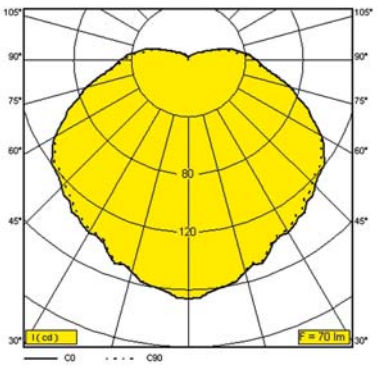
BP Black Body Prismatic Diffuser

BO Black Body Opal Diffuser

E Extras

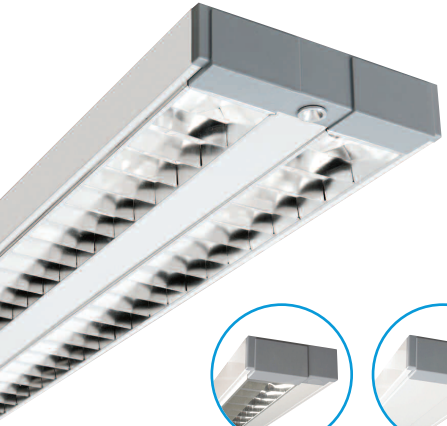
PH Photocell

CE IP65

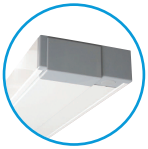


AMEC116++

Duet T5



Single Lamp



Blind Unit

A high performing, slimline luminaire suitable for direct mounting or suspension in either a stand alone or continuous run format.

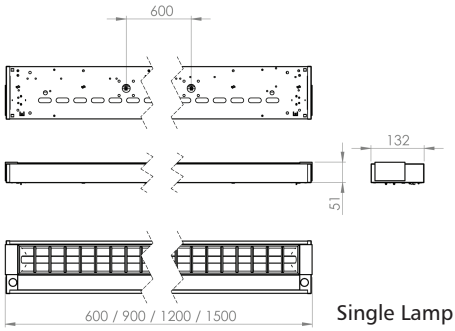
White powder coated steel housing (48mm deep) with grey polycarbonate injection moulded end caps (white endcaps available on request).

Various lamp configurations from 1x14W through to 2x80W T5 deliver LORs in excess of 80% (louvres) with certain models achieving compliance to EN 12464-1 (1000cd/m2 above 65° elavation), L2 (55 llm/W) and ECA.

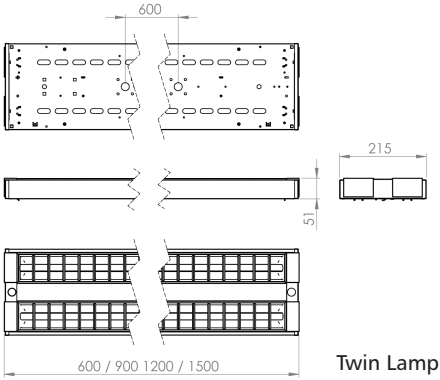
PIR and Daylight control sensor and 3W LED emergency integrated within the endcap.

With a central gear and cable entry point the luminaire is perfectly balanced for 2 point split wire suspension, trunking mounting or BESA box (bi-directional offers approximately 90% DLOR / 10% ULOR).

Mount direct to solid ceiling (4 x 6mm holes) or direct to trunking / surface conduit boxes (2 x 20mm holes).



Single Lamp



Twin Lamp

	Order Code	Nominal Length	Lamps
A	**Standard**		
	DUET5128/154*	1240	1x28WHE/1x54WHO
	DUET5135/149/180*	1540	1x35WHE/1x49WHO/1x80WHO
	DUET5228/254*	1240	2x28WHE/2x54WHO
	DUET5235/249/280*	1540	2x35WHE/2x49WHO/2x80WHO
	Continuous Run		
	DUET5128/154* CR	1200	1x28WHE/1x54WHO
	DUET5135/149/180* CR	1500	1x35W HE/1x49WHO/1x80WHO
	DUET5228/254* CR	1240	2x28WHE/2x54WHO
	DUET5235/249/280* CR	1540	2x35WHE/2x49WHO/2x80WHO
	Start/End Run		
	DUET5128/154* ST/ER	1240	1x28WHE/1x54WHO
	DUET5135/149/180* ST/ER	1540	1x35WHE/1x49WHO/1x80WHO
	DUET5228/254* ST/ER	1240	2x28WHE/2x54WHO
	DUET5235/249/280* ST/ER	1540	2x35WHE/2x49WHO/2x80WHO
	ST = Start of run. ER - End of run.		
	Blind Unit - (Sensors available for blind units)		
	DUET5600 BLIND CR	600	N/A
	DUET51200 BLIND CR	1200	N/A
	DUET51500 BLIND CR	1500	N/A

B	HFR	High Frequency Dimming (Analogue 1-10v)
	SD(E)	Digital Dimming Switch Dim (ECO)
	DSI(E)	Digital Dimming DSI (ECO)
	DSI(X)	Digital Addressable Lighting Interface (DALI)
C	LE3	Integral LED Emergency
	E3	3 Hour Maintained Emergency Pack**
	ST3	Self Test**
	AT3	Auto Test**
D	C2	LG3 2001 65° (LG3 1996 CAT 2) Louvre
	SSC2	LG3 2001 65° Louvre - Semi Specular
	LB	Ribbed Crossblade Low Brightness Louvre
	TPA	TP(a) panel (Twin lamp only, single available on request but with installation limitations)
E	R2	Integral PIR/daylight regulating sensor -DSI only
	WH	White end caps
	P413	Two point split suspension kit
	P410	Four point suspension kit

* Insert attachment suffix e.g. DUET5235 C2 ST

**Not available with 28W or 54W

All complete with T5 lamps.

LUXONICLIGHTING

SINZ®

An innovative range of LED maintained and non-maintained 3 hour duration exit signs, suitable for a viewing distance of up to 22 meters.

Mode options (replace 3MI with)

Non-maintained:	/3NMI
Self-test maintained:	/3MIET
Self-test non-maintained:	/3NMIET
Dali addressable maintained:	/3MID
Dali addressable non-maintained:	/3NMID

Colour options

RAL 9010 20% gloss as standard (WH)

Silver grey, replace /WH with /SG

Other colours are available to special order

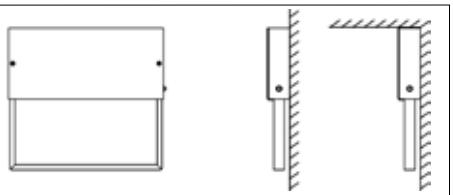
Pictogram's available

SUFFIX: /PL SUFFIX: /PR

SUFFIX: /PU SUFFIX: /PD

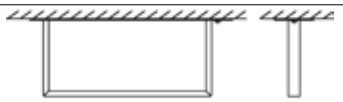
Example: SINZ/SUS/3MID/DS/PR/SG

SINGLE-SIDED

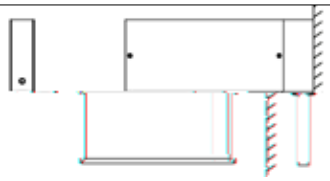


MODE	L	W	H
Wall Mounted / Surface Mounted			
SINZ/WSM/3MI/SS/LEGEND*/WH Maintained	221	32	225

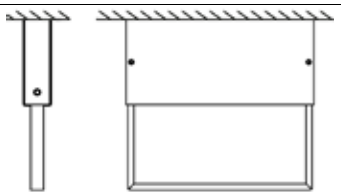
DOUBLE-SIDED



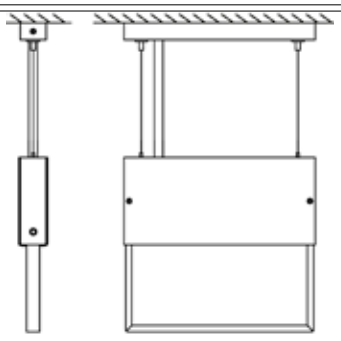
MODE	L	W	H
Recessed			
SINZ/R/3MI/DS/LEGEND*/WH Maintained	270	70	120
Cut-out & Recesse depth	240	40	106



MODE	L	W	H
Wall Mounted End			
SINZ/WME/3MI/DS/LEGEND*/WH Maintained	261	32	225



MODE	L	W	H
Surface Mount			
SINZ/SM/3MI/DS/LEGEND*/WH Maintained	221	32	225



MODE	L	W	H
Suspended			
SINZ/SUS/3MI/DS/LEGEND*/WH Maintained	221	32	225

Note: Supplied complete with clutches and 3m stainless steel wires.

Luxonic Lighting Plc, Priestley Road, Basingstoke, Hampshire, RG24 9JP. UK
t: +44 (0)1256 363090 | f: +44(0)1256 842349 | www.luxonic.co.uk | info@luxonic.co.uk
see www. luxonic.co.uk for current data sheet

Tamlite Lighting
TLX
TLX high frequency batten
Product Data Sheet

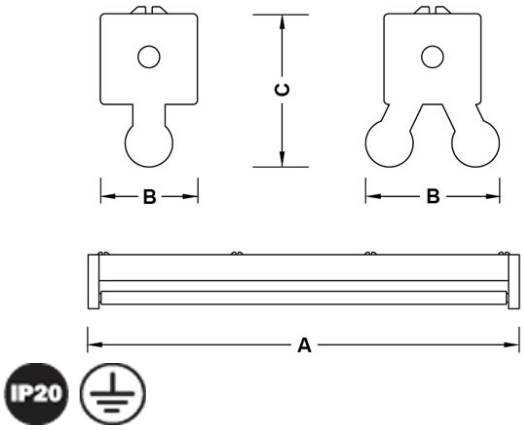
Features:
- Professional fluorescent batten range
- High frequency control gear
- High output Tri-phosphor tubes (colour 840)
- Energy efficient product

Construction:
- Manufactured from high quality steel
- Finished in white epoxy powder coat

To Specify / Order:
High frequency fluorescent T8 batten as per Tamlite TLX range supplied with Tri-phosphor tubes

Options:

AST	Emergency self test available
V**	Vision integral lighting control available



Order Codes

All dimensions are in millimetres

Order Code	Availability	Lamps	Fixing centres (mm)	Wgt (kg)	Dim A	Dim B	Dim C
TLX18		1 x 18W T8		-	1.30	618	62
TLX218		2 x 18W T8		-	1.30	618	87
TLX236		2 x 36W T8	610	2.6	1228	87	104
TLX258		2 x 58W T8	610	3.1	1526	87	104
TLX270		2 x 70W T8	610	3.8	1791	87	104
TLX36		2 x 36W T8	610	2.2	1228	62	104
TLX58		1 x 58W T8	610	2.7	1526	62	104
TLX70		1 x 70W T8	610	3.2	1791	62	104

Please Note: Order codes listed are for standard (non-emergency) versions only. For all other gear options, please contact Tamlite Lighting.

Tamlite Lighting Techincal Department.
Tel: 01952 292441 Fax: 01952 292155
e-mail: technical@tamlite.co.uk

E2

E2		**P000766005EM + P000766006D** EMRGENCY BULKHEAD EXIT SIGN 1X 8W Maintained Emergency Exit Sign, Wall Mounted, with Running Man Arrow Down Pictogram Legend.

SPECIFICATION:

- Detection range: 360°, radius 4.5m at an installation height of 2.8m.
- Duration time: from 10±5 seconds to 14±1 minutes adjustable.
- Voltage: 220–240Vac 50Hz
- Wattage: Max. 2000W incandescent lamp (resistive load),
  Max. 500W fluorescent lamp (inductive load).
- Lux Control Level: from daylight to night adjustable.

CLEANING:

To avoid dust build-up and ensure proper functioning of the PIR sensor, please wipe the sensor lens lightly with a dry cloth every 3 months.

Do not use any chemical or abrasive cleaners.

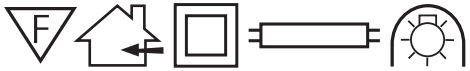
EVENTUALLY, YOU MAY WANT TO REPLACE THIS PIR DETECTOR:

When your product comes to the end of its life or you choose to update or upgrade it by replacing it, please do not dispose of it with your normal household waste and please recycle where facilities exist. When you need to dispose of this fitting you can check with your retailer or local authority for suitable options. New regulations require the recycling of Waste from Electrical and Electronic Equipment (European "WEEE Directive" effective August 2005—UK WEEE Regulations effective 2nd January 2007). Environment Agency Registered Producer: WEE/GA0248QZ.

IF YOU EXPERIENCE PROBLEMS:

If your product is defective or develops a fault, please return it to the place where you bought it. You can call our helpline for advice. The helpline will gladly give advice on any aspect of any Eterna Lighting product but may not be able to give specific instructions regarding individual installations.

If in doubt, consult a qualified electrician.



041011-SM

HELPLINE:
- **T: 01933 673 144**
- **F: 01933 678 083**
- **E: sales@eterna-lighting.co.uk**

Visit our website:
www.eterna-lighting.co.uk

Eterna®

SAFETY AND INSTALLATION INSTRUCTIONS

Pack contents:

360° Flush Mounted PIR
c/w Terminal Cover x 1

Model:
PIRFM360

360° Flush Mounted Ceiling PIR

These instructions are provided as a guideline to assist you.

PLEASE READ THESE INSTRUCTIONS BEFORE USING YOUR NEW FITTING
PLEASE RETAIN FOR FUTURE REFERENCE

General Information & Installation:

READ THIS FIRST:

This light fitting must be installed in accordance with the Building Regulations making reference to the current edition of the IEE Wiring Regulations (BS7671). The Building Regulations may be obtained from OPSI or viewed and downloaded from www.communities.gov.uk following the link for Building Regulations.

If in any doubt, consult a qualified electrician.

Switch off the mains before commencing installation and remove the appropriate circuit fuse.

Disconnect the unit from the electrical supply before flash or high voltage testing.

Do not connect to a circuit which also has large inductive loads connected as spikes generated switching inductive loads may damage electronic components within your PIR switch.

Suitable for indoor use only.

The sensor is designed for optimum performance when installed into a domestic ceiling.

Do not position close to or pointing at any source of heat such as a heater or heat extraction unit or vent. This may cause false triggering.

Do not position close to or pointing at any bright light source as this will hinder operation of the lux control.

Before making fixing hole, check that there are no obstructions hidden beneath the mounting surface such as pipes or cables.

Do not fit in surfaces which are damp, freshly painted or otherwise electrically conductive (e.g. metallic surfaces).

If the location of your new unit requires the provision of a new electrical supply, the supply must conform with the requirements of the Building Regulations making reference to the current edition of the IEE Wiring Regulations (BS7671).

This product is designed for permanent connection to fixed wiring: this should be either a suitable lighting circuit (protected with a 5 or 6 Amp MCB or fuse) or a fused spur (with a 3 Amp fuse) via a fused connection unit. We recommend that the supply incorporates a switch for ease of operation.

Make connections to the electrical supply in accordance with the following code:
Live (in/out) - Brown or Red
Neutral - Blue or Black

When making connections, ensure that the terminals are tightened securely and that no strands of wire protrude. Check that the terminals are tightened onto the bared conductors and not onto any insulation.

This fitting is double insulated, do not connect any part to earth.

You are advised at every stage of your installation to double-check any electrical connections you have made. After you have completed your installation there are electrical tests that should be carried out: these tests are specified in the Wiring Regulations (BS7671) referred to in the Building Regulations. If in doubt, consult a qualified electrician.

Never remove the lens cover as the sensor inside will be damaged and any guarantee will become invalid.

When making connections, ensure that the terminals are tightened securely and that no strands of wire protrude. Check that the terminals are tightened onto the bared conductors and not onto any insulation. Wrap loose terminal blocks well with insulating tape.

This product must be connected to an Earth.

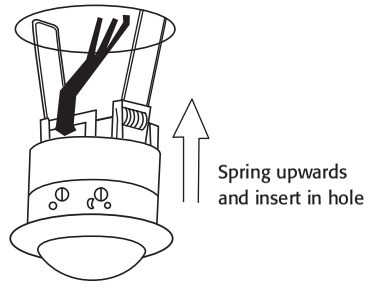
You are advised at every stage of your installation to double-check any electrical connections you have made. After you have completed your installation there are electrical tests that should be carried out: these tests are specified in the Wiring Regulations (BS7671) referred to in the Building Regulations. If in doubt please consult a qualified electrician

INSTALLATION:

1. Choose the location for your new PIR switch according to the conditions listed above.
2. Cut a round hole 2 1/2" (63mm) in diameter in your mounting surface.
3. Using a small flat-bladed screwdriver, remove the transparent cover from the mains terminals.
4. Remove the top of the cord grip from the top of the PIR unit.
5. With the supply and load wiring hanging through the hole in your ceiling, connect the Live in, Live load and Neutral wires according to the colour code above and the markings next to the terminals.
6. Fit the cables under the cable grip and tighten securely.
7. Press the transparent cover back into position.

Installation & Operation:

8. Set the Lux control to the day position (☼) and the time control to minimum.
9. Press the side springs upwards against the side of the unit and offer up into the hole in your ceiling.
10. Release the unit into the hole allowing the strength of the springs to hold it in position



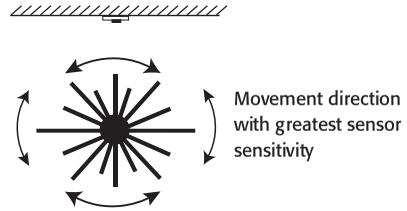
OPERATION:

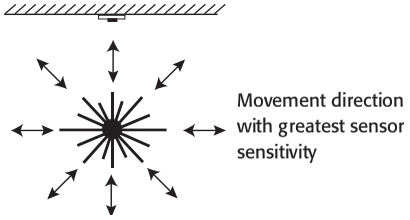
Walk Test

When the power is switched on, the unit will enter it's "warm up" mode for approximately 1 minute after which it will enter "auto" mode. When the sensor is in "auto" mode, a walk test can be performed.

With the Lux control set to daylight (☼) and the time control set to minimum (you should have done this when you fitted the unit into your ceiling), you will be able to determine the area of detection by walking slowly beneath the sensor. The load will be switched on for a pre-set period of time when the sensor is triggered.

Please note that the sensor is more sensitive to movement past it than to movement directly towards it, see diagram opposite.





After completing the walk test, set the Lux control to the night position (if night-time only operation is required) and set the time control to achieve the desired time on duration.

Adjusting the Lux Control

The Lux control has a built-in photocell that detects daylight and darkness. Turning the control towards the (☼) symbol will result in the unit switching in all light levels. Turning the control towards the (☾) symbol will result in the unit switching only in reduced light. Set the unit to switch at the desired light level using this control.

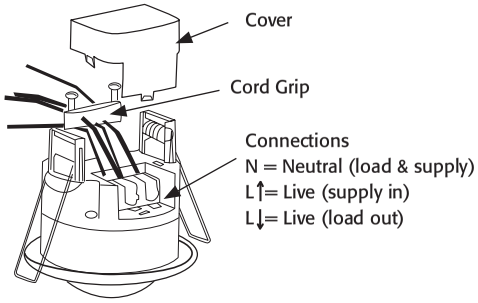
Adjusting the Duration Time

The duration time is the length of time for which the load remains energised after the sensor has been triggered. This time can be adjusted from 10±5 seconds to 14±1 minutes. Turning the control from the [+] symbol to the [-] symbol will reduce the duration time.

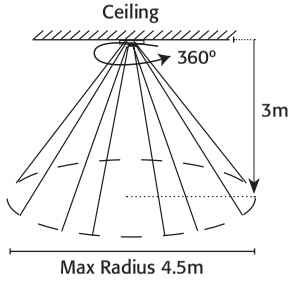
Note: Once the sensor has been triggered, any subsequent detection will start the time period again from the beginning.

Response Time

It is normal for a delay of several seconds to occur between the sensor detecting movement and the load switching on.



Detection Area



SECTION 4 // SCHEDULE AND ILLUSTRATION OF ACCESSORIES

A&B ELECTRICAL SERVICES

4.1 Description

MK grid switches	K3704
cover plate	K3638
em key switches	K4898EL
Marco skirting trunking	MEC3LGL
angle	MEC31
external	MEC3E
twin box	MTSB2
Proteus boards	BX12S1
MCB	632B
switch fuses	SF63
	SF100
Advent fans	AUX100IDS
	ME1004S
	AVA269
Newlec sockets	NL8300
spurs	NL8313S
ME intercom	VD5230
Challenger alarm	AP11LED
auto dialler	AT20/GSM dialler
wireless sounder	AEW1
wireless PIR	ADFW1
contact	ACFW1
Firesafe fire alarm panel	FCFP4N
smokes	FDC010A
heats	FDC022A
call points	FCPSR
sounder beacons	FSAVRRN
relay	FBF376N
sounders	FSASN
remote indicators	FLRN

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Product comparison
A-Z Index
Brand index

vd5230 » (1)

Video Door Intercom 3 units VD 5230

Image 1 2 Enlarge image

Part no.: 610839 - 89
Manufacturer part no.: VD 5230

only £695.99

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Operating instruction:
multi lingual - Ver. 1.0

Designer colour video door intercom with 2-wire technology and 2.5" "TFT monitor

This video door entry system is a technical and visual delight. The indoor and outdoor units are a flat 28 mm. They have a handsfree function and can also be connected to any standard doorbell. Furthermore, an alternative power supply is possible in addition to the mains adapter included. Three different ringtones with adjustable volume The colour camera also produces pictures indark, which are shown on the 6 cm TFT-monitor. Both units are silver metallic. You require only 2 wires for the connection between external-speaker and respective inner station. Range at night up to 2 m, during the day approx. 10 m

Range at night up to 2 m, during the day approx. 10 m

Included in the delivery:

- Indoor unit with handsfree function and door-opening button
- Outdoor unit with colour camera and illuminated nameplate
- Socket-Adapter
- User manual.

Highlights

- Hands-free unit Illuminated name tag Outdoor monitoring possible at the indoor unit

Features:

- Indoor and outdoor units for surface mounting
- Doorbell button with blue-lit LED

Technical data

Camera Type:	Colour
Colour:	Silver (metallic)
Specification:	Three-family home
Dim. External unit:	(H x W x D) 115 x 222 x 28 mm
Dim. Interior unit:	(H x W x D) 115 x 222 x 28 mm
Units/participants:	3
Melodies:	3
Resolution:	882 lines
Monitor Type:	Colour TFT 6 cm
Connecting wires:	2
Mounting:	Wall-mounted
Operating voltage:	230 V/50 Hz via plug-mains adapter (output: 15 V)
Max. bell signal volume:	80 dB (A)

You may also be interested in:

GEV Colour Video Intercom 1 monitor
Part no.: 610725 - 8F
Former price: £329.99
only £249.99
You save:£80.00
1 Items

People who viewed Video Door Intercom 3 units VD 5230 also viewed

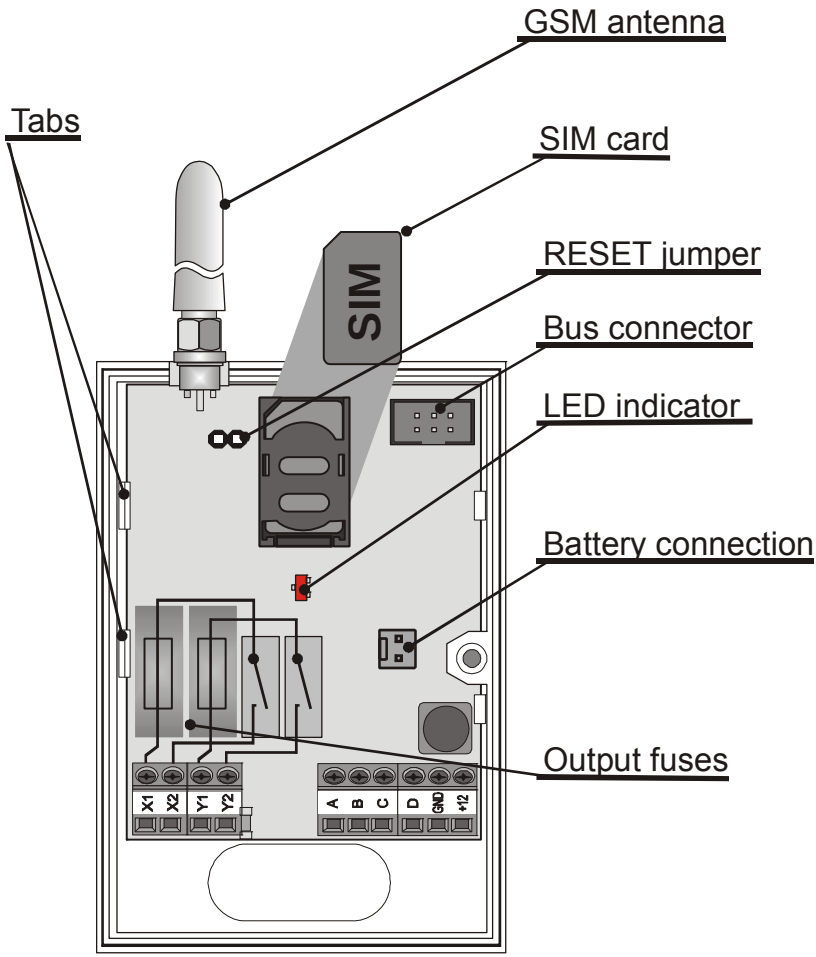
ELRO VIDEO INTERCOM 1 UNIT | GEV COLOUR VIDEO INTERCOM 1 | COLOUR VIDEO DOOR INTERCOM + 2 | VIDEO DOORPHONE | O-PUR OXYGEN BOTTLE

The GD-04 “David” GSM communicator

User manual

The GD-04 module got its name from David, a biblical king who outsmarted Goliath, a giant. In our case, Goliath is meant to be the GSM network. We hope that the skills of your tiny David will help you manage the giant.

1. Basic description



1.1. David provides:

- **2 output contacts** of power relays X and Y (each allows up to 5A/250V)
- **4 input terminals** A to D for SMS reporting (the inputs react to a connection or disconnection to or from a common GND terminal)

1.2. David can be used as:

- **A switch with SMS remote control.** SMS texts for switching particular terminals on/off are configurable.
- **A time-switch** which can be activated remotely via a mobile phone (the switch-on period is configurable from 1 second to 10 hours).
- **A relay with dialling-in remote control**. Up to 50 tel. numbers can be authorized for each relay. Because calls are not answered dialling-in control within GSM is free of charge. (David only checks the caller's number and – if the number is authorized – responds with relay activation.) This can be used for parking latch control etc.
- **A relay with validity-limited dialling-in remote control**. Each authorized number can have a limit to the number of calls. When the call count reaches the limit the tel. number is de-authorized. This can be useful for pre-paid services such as e.g. parking. Any tel. number can be re-authorized via SMS by the administrator.
- **An SMS reporter**. Input A to D activations or deactivations can be reported by SMS and optionally confirmed by phone calls. Each input can have its own message texts and up to 8 tel. numbers programmed.
- Examples of David applications can be found on http://www.jablotron.cz/david/en/examples.htm

1.3. David can be supplemented with:

- **A GD-04A back-up module,** which provides David with the ability to work **approx. 12 to 24 hours continually without an external power supply**, see 11.1.
- **A GD-04D DTMF module,** which allows you to control David's output relays by entering numeric codes (DTMF codes) on the telephone keypad during calls, see 11.2.
- **A GD-04P link cable**, which allows you to connect David to a PC through a USB port and perform any desired configuration using GDLink software.
- **A GD-04R radio module**, which allows **input** A to D **activations via wireless buttons or detectors** of the OASiS series and also provides David with the capability of output relay X or Y state transmission to UC or AC OASiS receivers. In addition, you can control relays X or Y **"locally" via RC-8x keyfobs** (so that an appliance can be controlled both via a mobile phone and a keyfob). The module also allows heating control (again locally or remotely via a mobile phone) using wireless thermostats of the TP-8x series.

A detailed description of optional accessories can be found in chapter 11.

2. David's SIM card

- In order to function, David needs a **SIM card**, preferably a tariffed one.
- Test the **SIM card** by using it in your mobile phone – SMS sending and calling must work correctly.
- **Switch off the PIN code protection** via the phone menu (or set the PIN code to 1234).
- **Check the GSM signal strength** in David's location.

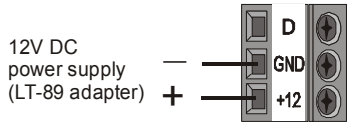
3. Installation

1. The GSM **antenna should not be shielded by metals**. If necessary, an external antenna designed for the 900/1800MHz GSM band can be connected via a 50Ω SMA connector.
2. Open the cover and **release the electronic circuit board** by pressing the tabs.
3. **Mount the rear plastic** cover at the desired location.
4. **Insert a SIM card:** Open the SIM card case by shifting the moving part in the direction of the terminals and tipping it off. Make sure that the card is correctly oriented and insert it. Close the SIM card case (fold and re-shift the moving part).

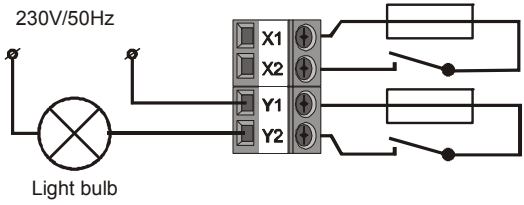
5. Insert the **circuit board back** to its position.
6. Do the wiring, see below.

4. Wiring

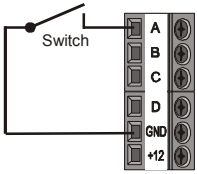
1. **Power supply** – use the +12V and GND terminals. Any power supply adapter used should provide 12V DC voltage and up to 500mA of current. If an LT-89 mains adapter is used (a recommended option) wire the grey marked conductor to GND. Do not turn the power supply on until all input/output wiring has been done.



2. **Output relay contacts** – available at the X1+X2 and Y1+Y2 terminals. Each contact is fused to 5A. The circuits which the contacts belong to are protected from the remaining electronics by a safety separator and are capable of switching up to 5A at 250V AC. The following example shows a light bulb control via the Y output relay:



3. **Input terminals** – marked A to D. The terminals respond to a connection or disconnection to or from GND by sending an SMS report. No external voltage supply can be connected to these terminals – they can only be controlled via a potential-free switch/contact. Example of wiring a switch to input A:



5. Initial powering up

4. **Turn the power supply on**, registering to the GSM network is indicated by the LED flashing *(if no indication occurs, check the power supply wiring)*.
5. **After GSM registration the LED stops flashing** (usually within 1 minute). *Continued flashing indicates a GSM registration fault. Disconnect the power supply and check that a valid SIM card has been correctly installed into the device, see 2 and 3).*
6. Send the SMS instruction **STATUS** to David's SIM card number.
7. **David responds by a status report**, e.g. **STATUS: A0,B0,C0,D0,X0,Y0,GSM:80%** (which means that all A to D inputs and both the X and Y relays are switched off and that the GSM signal strength is 80%). Depending on the GSM network traffic the response may take some time. *If no response occurs, verify that "STATUS" is spelt exactly right in the text of the message and that you are sending the message to David's correct SIM card number (repeat the previous step).*

6. Programming

6.1. Via the Internet

The simplest way to program David is via the web site **www.david.jablotron.cz**.

You fill in all the required parameters in a form on a single web page, press the Send button, and the Jablotron web server will forward the settings to your David via the GSM network. Performance of a successful transfer is confirmed from David by an SMS reply "PROGRAM OK" to your mobile phone.

All parameters are sufficiently described on the page so that you do not need to use David's installation or user manual to perform programming.

Programming via the web site is free of charge. No user registration is required. Your David's settings are not stored on the web server. Instead, you can save them as a file in your computer for future use (the file can then be imported to the page). The page does not allow you to retrieve the current settings of your David. Any programming is only possible if a valid access code is specified (the code, being a part of David's settings, is not stored on the web server, only in your David). This makes the web access to your David both secure and simple.

6.2. Using a PC running GDLink software

If you need to program David frequently, connecting David to a PC running specialized software is the recommended option. GDLink software allows you not only to send programming instructions but also to retrieve the current David settings. For the PC connection, you can use a GD-04P link cable connected to a USB port (the cable is supplied separately). GDLink software is available either in the GD-04P's package or on the **www.jablotron.cz** web site.

David's communication protocol is available for use by other computer programs which can thus utilize GD-04 transfers (including programming instructions or GSM status information).

6.3. SMS instructions

David can also be configured via SMS instructions from your mobile phone. The programming instruction format is explained in the following example:

***PC*, ARX, heating on, DRX, heating off**

where:

- ***PC*** is the access (programming) code, required at the start of any programming SMS message* (2 to 8 ASCII characters, the factory default setting is PC)
- **,** is a comma separator
- **ARX** is the name of the instruction for programming the text you wish to use for switching relay X on via SMS. The desired text ("heating on") follows, separated by a comma.
- **DRX** is similar to ARX, related to switching relay X off.

The above SMS instruction tells David that the X relay can be switched on/off by the SMS instructions "heating on" / "heating off".

Note: This text distinguishes between SMS messages and SMS instructions – an SMS message can contain multiple SMS instructions in a sequence.

SMS instruction rules:

1. Any programming SMS message must start with a valid access code (the factory default code is PC). Multiple messages mean multiple codes.
2. A single message can contain multiple instructions. David is capable of long message processing – if enabled by your phone, you can write and send a programming SMS message containing up to 2400 ASCII characters.
3. The comma separator is used both between individual instructions and between individual segments within instructions.
4. Spaces are ignored, except in operational texts which are meant to be a part of a David setting.
5. The successful processing of a programming SMS is confirmed from David by the SMS reply "PROGRAM OK".
6. When an error is encountered, David reports a "PROGRAM ERROR" followed by the text of the instruction which has not been recognized. Preceding instructions within the message are carried out, succeeding instructions are ignored.

7. David is not case sensitive (does not distinguish between lowercase and UPPERCASE letters).
8. The use of accented characters is not recommended.
9. After an SMS message has been received, David switches off both the X and Y relays.
10. See table 1 for a brief instruction list.

7. Remote operation via SMS instructions

When using texts which have been programmed for David SMS operation (relay control, status interrogation) the following conditions apply:

- David does not distinguish between authorized and unauthorized phones when processing operational SMS instructions. Instructions can be sent from any phones, but the texts must match the texts which have been pre-programmed (except the lowercase/UPPERCASE attribute).
- **Access codes** are **NOT** part of operational SMSes.
- A single SMS message can contain multiple instructions separated by commas, e.g.

  HEATING ON, LIGHTS OFF, STATUS
- David can be so configured that every instruction performance is reported by SMS.
- Received SMSes with unrecognised instructions can be forwarded to the so called service number (see table 1).
- If you are not sure whether any other text will be automatically added to the SMS on its way to David (for example, when **using an SMS internet gate**) type the message like this: %instructions%%. Example: The SMS text "*1/1 www: %heating on%%"* is interpreted as *heating on*.

8. Remote operation via dialling-in

David allows you to control the X and Y relays via dialling-in from pre-authorised phones. If a call is made to David from a pre-programmed number, the call is rejected and the relay reacts as follows:

- If a limit is set to the relay switch-on period then the relay switches on for the limit period.
- If no limit is set (zero value is set for the limit) then the relay switches on permanently - until a switch-off SMS instruction or another dialling-in event occurs.

Notes:

- Up to 50 tel. numbers can be programmed for each relay.
- Each tel. number can have a limit to the number of calls so that any further calls are ignored.
- This feature is not applicable to phones with withheld numbers.
- Dialling-in relay control can be reported by SMS.

9. Using prepaid SIM cards

Prepaid SIM cards are NOT recommended for use in David, because they increase the risk of David malfunctioning due to a possible credit balance under-run.

If you still decide to use a prepaid SIM card, you can configure David for periodic balance interrogation. If the reported credit balance is lower than the set limit, the credit balance message will be automatically sent to the service phone numbers. To program this feature you need to know some data specific to the GSM provider (see the SIM card documentation). The programming instruction is of the following form:

PC*, CRD, *xxxx*, *dd*, *hhh*, *pp

where:

PC	is the access code
CRD	is the name of the instruction for credit balance interrogation
xxxx	is the command string to ascertain the credit (GSM network specific, e.g. *104#)

dd is the auto-interrogation frequency in days

hhh is the minimum acceptable credit balance

pp is the textual position at which the number showing the balance starts in the reply message from the GSM provider

Example: If you require at least 50€ of credit balance, and the USSD code used to query the available balance is *104# and you want a weekly interrogation frequency, use the following instruction:

***PC*, CRD, *104*#, 7, 50, 01**

If you do not want automatic interrogation, you can program David to report the balance in response to your SMS instruction: ***PC*, CRD** . The programming is achieved by a programming instruction according to the following example:

***PC*, CRD, *104*#, 0, 0, 0**

Note: David's SIM card balance interrogation may stop working due to changes in GSM services (e.g. a different response format). You should therefore be acquainted with the methods your GSM provider uses or will use for querying the available balance.

10. Reset to factory defaults

You can reset David to the factory default settings via the SMS instruction *PC*, RST, where *PC* is a valid access code - see Table 1.

Another option is to use the RESET jumper (next to the SIM case):

a) Turn the power supply off (including the backup module if used).

b) **Connect the RESET jumper, turn the power supply on and disconnect the jumper after about 5s.**

Note: Performing a RESET erases all programmed tel. numbers and texts.

11. Optional accessories

David's functionality can be extended by optional modules or other separately supplied accessories:

11.1. The GD-04A back-up module

This module is imbedded in a specially-enlarged replacement cover. Installation is performed by replacing the original cover, together with wiring the GD-04A module to the GD-04 circuit board via the corresponding connector.

The backup battery requires approx. 72 hours to be fully charged. The battery provides **approx. 12 to 24 hours of backup operation**, depending on the output relay state and on the GSM signal strength (as with any GSM device, David's consumption is higher in places with a low signal level as the transmitter power has to be increased).

Only David's electronics is backed up. **No voltage is available on the +12V** terminal during backup operation.

Discharging the battery causes David to be switched off (including the X and Y relays). After the recovery of the main power supply David will switch on (but the relays stay switched off) and starts charging the battery. The message POWER FAIL or POWER RECOVERY is sent to the service number (STN).

11.2. The GD-04D DTMF module

The GD-04D allows relay X and Y control by entering numeric codes (DTMF codes) on the telephone keypad during calls. The DTMF codes intended for use have to be programmed, see table 1.

The module can be installed by plugging in to the appropriate digital bus connector after the power supply has been disconnected.

11.2.1. DTMF relay control

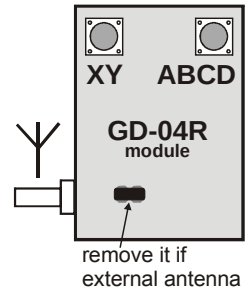
- **Call David's tel. number**. After about 7 seconds, David responds with a beep on the line (this means that the call has been answered) followed by relay X and Y status indication (in this order): 2 short beeps = OFF, 1 long beep = ON.
- **Enter the DTMF code**. A relay switch-on is confirmed by a long beep, a switch-off by two short beeps.
- **Terminate the call** (David automatically terminates the call after 60 seconds).
- After the call has been terminated **David reports the current relay status via SMS**.

Note: Too weak a GSM signal in David's or your location may result in DTMF control malfunctions.

11.3. The GD-04R radio module

By plugging the GD-04R radio module into the digital bus connector (after the power supply has been disconnected) your David acquires the following capabilities:

- **Relay X and Y state transmission to** UC or AC OASiS **wireless receivers**.
- **Input A to D activations via** RC-8x OASiS **wireless buttons** or via JA-8x OASiS **wireless detectors**.
- **Relay X or Y control via** RC-8x OASiS **wireless buttons**.
- **Relay X or Y control via** a **TP-8x** wireless **thermostat**.



The module has a built-in internal antenna. If necessary, a Jablotron external antenna of type AN-80 or AN-81 can be applied to extend David's working range.

Note: The external antenna is essential when the GD-04A back-up module is used.

11.3.1. Transmitting X or Y relay status to an UC-82 or AC-82 receiver

Enter mode 4 on the receiver and press the XY button on David's GD-04R module. This establishes a connection so that the receiver's relay status mirrors David's relay status. There is no limit to the number of UC/AC receivers which can be connected this way.

11.3.2. Wireless device input assignment and operation

Each input A to D can have one OASiS wireless device assigned to it. This way, triggering an external wireless device has the same effect as GD-04 input activation by physical connection to GND, effectively making the inputs radio-signal-activated.

Take the following steps to enroll a device:

1. Press and hold the ABCD button on the GD-04R module.
2. Entering enrollment mode is indicated after 5 seconds by flashing of the LED on the GD-04R module – release the button.
3. Enroll up to 4 wireless devices to the GD-04R (send enrollment signals to the module). The first device is assigned to the A input, the second one to the B input, etc. Wireless buttons are enrolled by pressing them, wireless detectors by inserting their batteries. Enrollment is confirmed by a long flash from the LED on the GD-04R.

   Important: Enrolling the first device erases all the previously enrolled devices. Thus all the desired devices should be enrolled in a single enrollment session.
4. Exit enrollment mode by pressing the ABCD button (enrollment is automatically terminated after the fourth device has been assigned or after 40 seconds).
5. After enrollment mode termination, the LED on the module lights for approx. 5 seconds to indicate enrollment data storage.

Notes:

- If the two buttons A and B are present on an RC-8x controller, the device can be enrolled by pressing either A, B or A+B. The operational logic is then as follows: pressing A or A+B is

responded to by an SMS report about input activation (a connection to GND). Pressing the B button is responded to by an SMS report about input deactivation (a disconnection from GND).

- For single-button controls (such as the RC-87 or RC-89), pressing the button is responded to by an SMS report about input activation.
- Enrolled JA-8x detectors work with the following logic:
  - Input activation is reported by SMS in response to detector triggering (body movement, door opening, breaking glass, fire, tamper...)
  - Input deactivation is reported by SMS in response to panic signals or to the de-triggering of state-providing detectors (JA-8xM)
- Wireless devices can also be assigned by entering their production code using the LRN instruction.
- An input terminal with a wireless device assigned to it can be configured (see Optional functions, DIP parameter g) so that connection to GND disables the reception of wireless signals. This feature allows the setting/unsetting of enrolled detectors.

11.3.3. Controlling the outputs using an RC-8x wireless button unit

Each X or Y output can have four OASiS wireless button units assigned to it.

1. Press and hold the XY button on the GD-04R module
2. Entering enrollment mode is indicated after 5 seconds by flashing of the LED on the GD-04R module – release the button.
3. Enroll up to 4 wireless button units to the X output (send enrollment signals to the module). Press the XY button again to allow enrolling to the Y output. A change of flashing rate indicates this. Wireless button units are enrolled by pressing them. Enrollment is confirmed by a long flash of the LED on the GD-04R. **Important: Enrolling the first device erases all the previously enrolled devices.** Thus all the desired devices should be enrolled in a single enrollment session.
4. Exit enrollment mode by pressing the XY button (enrollment is automatically terminated after the fourth device has been assigned or after 40 seconds).
5. After enrollment mode termination, the LED on the module lights for approx. 5 seconds to indicate enrollment data storage.
6. It is possible to enroll a wireless button unit with two buttons by pressing any button(s) (A, B or A+B). Button A changes the status of an output (switch on – switch off), button B always switches off an output. A wireless button unit with one button (RC-87 or RC-89), changes the status of an output (switch on – switch off).

11.3.4. Using David for heating operation and status reporting

Each input A–D can have a wireless thermostat of the TP-8x series assigned to it (see 11.3.2).

- Enroll a thermostat to any of the A, B, C or D inputs to **get reports about exceeding the maximum/minimum allowable temperature limits in your house**:
  - Exceeding the upper temperature limit (e.g. 60°C) is responded to by an SMS report about input activation.
  - Dropping under the lower temperature limit (e.g. 3°C) is responded to by an SMS report about input de-activation.
- Enroll a thermostat to one of the A or B inputs to **take control of the temperature in your house**. An A-assigned thermostat controls relay X, a B-assigned thermostat controls relay Y. This way heating control is established, supplemented by the reporting described above. Thermostats enrolled to C or D inputs only provide reporting.
- Normally, an A- or B- enrolled thermostat switches the heating (via the X or Y relay) so that temperature comfort is maintained. However, you can put the **heating in economic mode via an SMS instruction** or by connecting the A or B input to GND. The thermostat will then only provide anti-freeze protection: the heating will be switched on when a critically low

temperature is signalled (e.g. 6°C). Sending an SMS instruction for switching relay X or Y off puts the heating back to normal mode (with A or B disconnected from GND).

- If input A or B is used for thermostat enrollment, the status SMS report (obtained from David on an SMS request) contains information about the temperature.

  Example: **STATUS:A0,B0,C0,D0,X1,Y0,GSM:70%,TA:25/24C,TB:22/22C**

  where: **TA** labels data from thermostat A, **TB** labels data from thermostat B. The data is of the form **maintained temperature / measured temperature**.
- Enrolling a thermostat to the A or B input disables relay X or Y enrollments.
- DIP switch g setting has no effect on enrolled thermostat operation.

NOTE: To delete all enrolled items, press and hold buttons XY and ABCD.

11.4. The GD-04P link cable

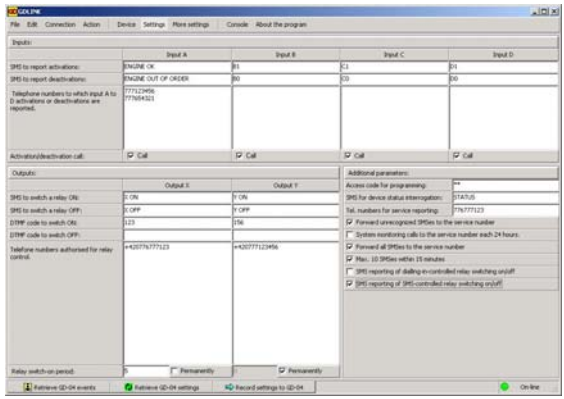
The GD-04P cable allows you to link David with a PC through an USB port and perform any desired configuration using GDLink software. The software is supplied on a CD in the package together with all the necessary drivers. You can also download GDLink from **www.jablotron.cz**.

11.4.5. Installing GDLink and the drivers

1. **Connect the GD-04P cable** to a free USB port on your PC and **insert the CD** into the CD drive.
2. Wait for "**New Hardware Wizard**" to start up.
3. **Search** for the **drivers on the removable medium** (CD).
4. When installing for WIN XP, **ignore** the notification about **wrong authenticity** with WIN XP and continue with the installation process. Leave the other parameters without any modifications.
5. **Finish** the new hardware installation wizard process.
6. There are **two devices** contained in one, so please wait for the "New hardware wizard" to start again. **Repeat the procedure** according to steps 3 to 5.
7. Your PC now has **two new devices** after successful installation - **"Jablotron serial interface"** as a **serial port** (COM) driver and the USB device with the same name as the **driver for USB**.
8. **Install the GDLink software** on your PC.
9. Connect the GD-04P cable into David's digital bus connector. GDLink is now ready to be started.

11.4.6. Using GDLink

- The program allows for:
  - **Retrieval and modification of David settings**.
  - Displaying **the last 127 memorized events**.
  - **Relays X and Y direct control**.
  - **Inputs A to D status display**.
- A comprehensible help option is provided as a part of the program.



12. Specification

Power supply	*11 – 13 V DC*
Stand-by consumption	*approx 20 mA*
Max. consumption (during communication)	*500 mA*
GSM band	*E-GSM 850 / 900 / 1800 / 1900 MHz*
RF output power	*2 W for GSM 850 / 900, 1 W for GSM 1800 / 1900*
A, B, C and D input terminals	*activated by a connection to GND*
Output contact rating X1,X2 a Y1,Y2	
Resistive load	*max. 2,5A / 250V AC*
Inductive (capacitive), lamp load	*max. 0,5A / 250V AC*
Can be operated according to	*VO-R/1/07.2005-14*
Safety	*EN 60950-1*
EMC	*EN 301489-7, EN 55022 and EN 50130-4*
Radio transmissions	*ETSI EN 301419-1 and EN 301511*
Environment	*II. indoor general (-10°C to +40°C)*
Dimensions (without antenna)	*76 x 110 x 33 mm*
GSM antenna	*connected to SMA connector*

CE

Jablotron Ltd. hereby declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The original of the conformity assessment can be found on the web site www.jablotron.com, Technical Support section.

Note: Although this product does not contain any harmful materials we suggest you return the product to the dealer or directly to the manufacturer after use.

David's settings

Input's SMS reports

Input A	*SMS when activated*				
	SMS when deactivated				
	Phone numbers				
Input B	*SMS when activated*				
	SMS when deactivated				
	Phone numbers				
Input C	*SMS when activated*				
	SMS when deactivated				
	Phone numbers				
Input D	*SMS when activated*				
	SMS when deactivated				
	Phone numbers				

Relays operation

Relay X	*ON command*	SMS:	DTMF code: *)
	OFF command	SMS:	DTMF code: *)
	Tel. numbers authorized for relay control		
Relay Y	*ON command*	SMS:	DTMF code: *)
	OFF command	SMS:	DTMF code: *)
	Tel. numbers authorized for relay control		

*) *Only available for the GD-04D version*

Wireless items *)

Enrolled	Type	Device code	Place
Input A			
Input B			
Input C			
Input D			
Relay X			
Relay Y			

*) *Only available for the GD-04R version*

Table 1 – A brief list of programming SMS instructions

Any programming SMS message must start with a valid access code (see 6.3).

Example: PC, ARX, heating on, DRX, heating off

Function	Instruction	Description	Factory default
Relays X and Y operation			
SMS to switch relay ON	**ARX, xxx..x**	Use **ARY** for relay **Y**. **xxx..x =** text (up to 30 characters), text erased by **ARX, ,** Example: *ARY,ventilator on*	erased
SMS to switch relay OFF	**DRX, xxx..x**	Use **DRY** for relay **Y**. **xxx..x =** text (up to 30 characters), text erased by **DRX, ,** Example: *DRY,ventilator off*	erased
Relay switch-on period	**TMX, t..t**	Use **TMY** for relay **Y**. **t..t** = switch-on period in seconds, or zero • 1 to 36000 (10h): the relay works as a time-switch, activated via switch-on SMSes or dialling-in, deactivated by time-limit expiration or via switch-off SMSes. • 0: no time-limit applies, dialling-in is responded to with toggle logic: on – off – on…	0 (no limit)
Telephone numbers authorised for relay control	**ADX, x..x,x..x**	Use **ADY** for relay **Y**. **x..x** = tel. number. Up to 50 numbers can be entered (in a single instruction or gradually). The numbers are added to the list of authorised numbers. Example: *ADX, 777123456, +420608503211* authorises two new numbers for relay X control.	empty list
Telephone numbers authorised for relay control with a validity limit.	**LDX, x..x,n, x..x,n**	Use **LDY** for relay **Y**. **x..x** = tel. number. The numbers are added to the list of authorised numbers, up to 50 in total. **n** = limit in the number of calls (1 to 99), exceeding the limit removes the number from the list – this is reported to the service number by SMS. Example: *LDX, 777123457, 31* authorises a new number for relay X control for a maximum of 31 calls.	
Erasing tel. numbers authorised for relay control	**EDX, x..x, x..x**	Use **EDY** for relay **Y**. **x..x** = tel. number. The numbers (up to 50) are removed from the list. Example: *EDX, 777123457* de-authorises a single tel. number used for relay X control.	–
Input A to D activation/deactivation SMS reports			
Input activation text	**ATA, xx..x**	Use **ATB** for input **B**, etc. **xxx..x** = text (up to 30 characters*) Example: *ATC, heating on* Instruction **ATA , ,** erases the text = no reports	A1, B1, C1, D1
Input deactivation text	**DTA, xx..x**	Use **DTB** for input **B**, etc. **xxx..x** = text (up to 30 characters*) Example: D*TC, heating off* Instruction **DTA , ,** erases the text = no reports	A0, B0, C0, D0
Telephone numbers for input reports	**TNA, x..x, x..x**	Use **TNB** for input **B**, etc. **x..x** = tel. number, up to 8 for each input. All previously stored numbers are erased. Use **TNA,** to empty the list. Example: *TND, 777123456, 608123456* sets David to report input D events to 2 numbers	empty list
Input-event calls	**DNA, n**	Use **TNB** for input **B**, etc., **n** = 1 (ON), 0 (OFF). If set to ON, every SMS report is followed by a call. If you answer the call, you hear a constant tone = activation, or an interrupted tone = deactivation. Example: *DND, 1*	OFF

Additional functions			
New access code	***NPC, xx…x***	**xx…x** = new access code, 2 to 8 characters Example: *NPC, MARTIN27*	PC
SMS to get David's status	**STS, xx..x**	**xxx..x** = text, up to 30 characters Example: *STS, HOW ARE YOU NOW*	STATUS
Service tel. numbers	**STN, x..x, x..x**	**xxx..x** = tel. number. Up to 2 numbers can be set, previously set numbers are erased. Service numbers are used to report faults: **POWER FAIL** / **POWER RECOVERY** [1] **LINE OK** (GSM signal recovery) Other events – see Optional functions. Instruction **STN,** erases service number(s).	none
Optional functions	**DIP,a,b,c,d,e,f,g**	Parameter **a** to **f** values can be: 1=ON, 0=OFF, x=unchanged Description of the parameters: **a** Forward unrecognised SMSes to the service number **b** Periodic calls to the service number every 24 hours (from the moment of being set) **c** Forward all SMSes to the service number **d** Max. 10 SMSes within 15 minutes (all subsequent SMS requests ignored) **e** SMS reporting of relay dialling-in-control **f** SMS reporting of relay SMS control (e.g. *heating off OK*) **g** Input terminal GND connection disables any wireless connection to the input (not applicable to thermostats) Example: *DIP,1,x,x,x,x,1,x*	0000000 (all OFF)
DTMF code to switch relay ON[2]	**CAX, xx..x**	Use **CAY** for relay **Y**. **xx..x =** numeric code, up to 8 digits Example: *CAY, 1234* Instruction **CAY,** erases the code.	none
DTMF code to switch relay OFF[2]	**CDX, xx..x**	Use **CDY** for relay **Y**. **xx..x =** numeric code, up to 8 digits Example: *CDY, 1234* Instruction **CDY,** erases the code.	none
Wireless device assignments[3]	**LRN,n,xx..x,n,x.**	**n** = A, B, C, D, X or Y (input or output the device should be assigned to) **xx..x** = device production code (last 8 digits) Only one device can be assigned to each A to D input, whereas each of X or Y relays can have up to 4 devices enrolled. Example: LRN,A,*xx..x*,B, *xx..x*, X,*xx..x* Instruction **LRN,** erases all assignments. A device cannot have multiple assignments. The order of A to Y is arbitrary, no duplications are allowed.	none
Triggering re-registration to the GSM network	**GSM**	David will unregister and then re-register to the GSM network. This can be useful after a blocked SIM card has been unblocked. A re-registration is also triggered by briefly connecting the RESET jumper while David is being powered up.	
Reset	**RST**	Resets David to the factory default settings. This can also be performed by connecting the RESET jumper during powering up – disconnect the jumper after approx. 5 sec.	

[1] Only available for the GD-04A version
[2] Only available for the GD-04D version
[3] Only available for the GD-04R version

JABLOTRON

Jablotron Ltd., Pod Skalkou 33
466 01 Jablonec nad Nisou
Czech Republic
Tel.: +420 483 559 911
fax: +420 483 559 993
Internet: www.jablotron.com

Newlec Moulded Socket, Switched, Twin Gang, SP, 13A, Without Neon

Part No. NL8300/2
Our Ref. 1000015981

Price Per Item

£3.99 ex. VAT

In stock for next day delivery
Log in to check branch stock

Specification

Item	Description
Manufacturer's Part Number	NL8300/2
Brand	Newlec
Type	Standard
Colour	White
Guarantee	20 Year
Size	86mm x 146mm
Manufacturer	Newey & Eyre
Standards	BS 1363
Material	Moulded Plastic
Packaging Type	Item
RoHS	Exempt
Voltage Rating	220 - 240V
Current Rating	13A
Width	146mm
Height	86mm
Mounting Type	Flush
Insert Colour	White
Switched/Unswitched	Switched
With Neon	Without Neon
UNSPSC Code	39121406
UNSPSC Title	Electrical receptacles
eCl@ss Code	27144038
eCl@ss Code 4.1	25161002
eCl@ss Title	Switch/plug socket combination

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The UK's Leading Distributor of Electrical Supplies
neweysonline
QUICK: CLICK: JOB DONE!

Home nl8313s

Back to nl8313s

Newlec Moulded Fused Connection Unit. Switched, DP, 13A /w Optional Flex Outlet

Part No. NL8313S
Our Ref. 1000015986

Price Per Item

£5.04 ex. VAT

In stock for next day delivery
Log in to check branch stock

Specification

Item	Description
Manufacturer's Part Number	NL8313S
Brand	Newlec
Type	Switched & Flex Outlet
Colour	White
Guarantee	20 Year
Size	86mm x 86mm
Manufacturer	Newey & Eyre
Standards	BS 1363, CE
Packaging Type	Item
RoHS	Exempt
Voltage Rating	250V AC
Current Rating	13A
Width	86mm
Height	86mm
Mounting Type	Flush
Insert Colour	White
Number of Fuses Fitted	One Fuse Fitted
Switched/Unswitched	Switched
With Neon	Without Neon
UNSPSC Code	39121541
UNSPSC Title	Rocker switches
eCl@ss Code	27142109
eCl@ss Title	L.v.h.b.c. fuse switch-disconnector

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63 AMP SPN SWITCH C/W 63 AMP HRC FUSE

Catalogue number: SF63

Proteus range of switch fuse combination units incorporating DP isolator and BS88 fuse all enclosed in a robust metal clad enclosure

Key Features List

Isolation switch can be locked in ON or OFF position

Product Specifications

Height:	225.0mm
Width:	114.0mm
Depth:	90.0mm
Other key dimensions:	61
Standards:	BSEN60947 parts 1&3, BS88 pt 2 1988
Current rating:	63A
Voltage rating:	230 / 400V a.c.
Enclosure material:	Full Cold Rolled Steel enclosure for maximum robustness
Colour:	Grey (Tough polyester epoxy paint coating)
Cover door:	Side hinged tinted door
IP Rating:	IP30
Cable Entry Facility:	Selection of 20, 25 and 35mm knockouts
Max outgoing ways:	1
Switchgear fitted:	Isolator and HRC fuse base / carrier
No of poles:	2 (L + N)
Tripping characteristics:	BS88 fuse characteristic
Short circuit rating:	Conditional short circuit rating of 16kA
Term capacity in:	50sqmm
Term capacity out:	50sqmm
Utilisation category:	AC22B

Order Code	Description:	QTY
SF63	63 AMP SPN SWITCH C/W 63 AMP HRC FUSE	1 Add to Basket

100 AMP SPN SWITCH C/W 100 AMP HRC FUSE

Catalogue number: SF100

Proteus range of switch fuse combination units incorporating DP isolator and BS88 fuse all enclosed in a robust metal clad enclosure

Key Features List

Isolation switch can be locked in ON or OFF position

Product Specifications

Height:	307.0mm
Width:	192.0mm
Depth:	90.0mm
Other key dimensions:	61
Standards:	BSEN60947 parts 1&3, BS88 pt 2 1988
Current rating:	100A
Voltage rating:	230 / 400V a.c.
Enclosure material:	Full Cold Rolled Steel enclosure for maximum robustness
Colour:	Grey (Tough polyester epoxy paint coating)
Cover door:	Side hinged tinted door
IP Rating:	IP30
Cable Entry Facility:	Selection of 20, 25 and 35mm knockouts
Max outgoing ways:	1
Switchgear fitted:	Isolator and HRC fuse base / carrier
No of poles:	2 (L + N)
Tripping characteristics:	BS88 fuse characteristic
Short circuit rating:	Conditional short circuit rating of 16kA
Term capacity in:	50sqmm
Term capacity out:	50sqmm
Utilisation category:	AC22B

Order Code	Description:	QTY
SF100	100 AMP SPN SWITCH C/W 100 AMP HRC FUSE	1 Add to Basket

Logic Plus

WHITE

www.mkelectric.co.uk

Logic Plus wiring devices from MK Electric have been designed to perfectly complement modern interiors, offering an unobtrusive and sophisticated look totally in keeping with today's design. Technically, they exceed British Standard requirements with patented features that make these products the most advanced and safest available.

They are easy to install and available through our extensive distributor network.

The range is backed by MK's quality and reliability and provides the largest selection of wiring devices in any single range.

Modern styling
Smoothly formed front plates, rounded rocker switches and chamfered radius corners

Total safety
Unique 3-pin operated "child resistant shutter system", which is designed to inhibit access to the electricity supply, unless all 3 pins of a standard British 13 Amp plug are in position

Unrivaled quality and reliability
Products are made from the very best materials and are 100% tested

Quick and easy to install
In-line terminals and backed out, captive screws feature

Outstanding range
Large selection of wiring devices providing a total solution

20 year guarantee
Gives total peace of mind to you and your customers (10 years Electronic Devices)

Plateswitches

NEON LOCATOR

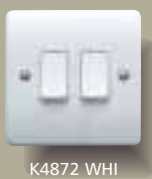
10 AMP FLUSH

Neon locator on a plateswitch

K3041

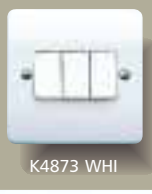
K4870 WHI

K4871 WHI


K4872 WHI

K4875 WHI

K4876 WHI


K4873 WHI

K4874 WHI

K4879 WHI

K4878B WHI

K4878P WHI

K3041 5
NEON PLATESWITCH
LOCATOR
200-250V. 50Hz.

Neon Plateswitch Locator is for use with any 1, 2 and 3 gang Logic Plus plateswitches.

Used for location of switches in dark situations.

FIXING CENTRES:
60.3mm

BS.5733: 1979

The Logic Plus finish is also available in the Grid Plus modular system. See pages 148-155

K4870 WHI 10
1 GANG SP
ONE-WAY

K4871 WHI 10
1 GANG SP
TWO-WAY

K4872 WHI 10
2 GANG SP
TWO-WAY

K4875 WHI 10
1 GANG
INTERMEDIATE

MOUNTING BOXES

FLUSH:
1, 2 & 3 GANG:
3995 ZIC

4 & 6 GANG:
862 ZIC

SURFACE:
1, 2 & 3 GANG:
K2160 WHI

4 & 6 GANG:
K2161 WHI

These switches do not have to be derated when used with fluorescent or inductive loads.

K4871, K4872, K4873, K4874, K4879
These switches can be wired as either one-way or two-way.

K4876 WHI 10
1 GANG DP
ONE-WAY

K4873 WHI 10
3 GANG SP
TWO-WAY

K4874 WHI 5
4 GANG SP
TWO-WAY

K4879 WHI 5
6 GANG SP
TWO-WAY

DIMENSIONS:
1, 2 & 3 gang: 86 x 86mm
4 & 6 gang: 86 x 146mm

FIXING CENTRES:
1, 2 & 3 gang: 60.3mm
4 & 6 gang: 120.6mm

BS EN 60669-1: 2000

20 AMP VERSIONS

K4870, K4873, K4874, K4875, K4871 & K4872 are all available as 20 amp SP versions. Use suffix D2 WHI when ordering.

K4867
is 20amp DP 1 way version of K4871.

K4868
is 20amp DP 1 way version of K4872.

K4878B WHI 10
1 GANG SP
TWO WAY
PUSH SWITCH
WITH BELL SYMBOL
PUSH TO MAKE OR BREAK

K4878P WHI 10
1 GANG SP
TWO WAY
PUSH SWITCH
MARKED 'PRESS'
PUSH TO MAKE OR BREAK

MOUNTING BOXES

FLUSH:
3995 ZIC

SURFACE:
K2160 WHI

DIMENSIONS:
86 x 86mm

FIXING CENTRES:
60.3mm

BS EN 60669-1: 2000

Plateswitches

WITH WIDE ROCKERS
10 AMP
FLUSH

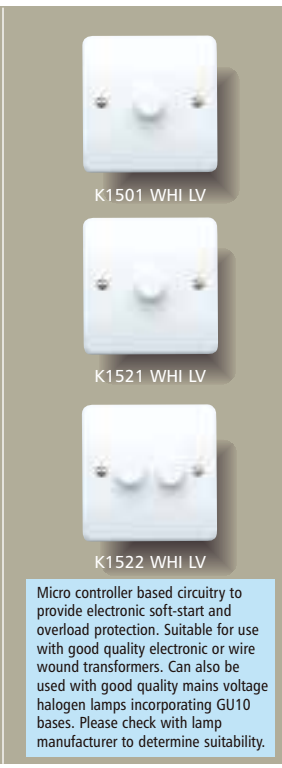
Architrave Switches

10 AMP
FLUSH

Intelligent Dimmer Switches

230V a.c. 50Hz
TUNGSTEN FILAMENT AND LOW VOLTAGE HALOGEN LIGHTING
FLUSH

Wide rocker plateswitches are not only a stylish alternative to standard plateswitches, but with the fixing screws hidden, the rocker cap acts as an additional barrier to prevent unwanted tampering in public areas. They are also very practical and easy to use for the young and elderly alike.



Micro controller based circuitry to provide electronic soft-start and overload protection. Suitable for use with good quality electronic or wire wound transformers. Can also be used with good quality mains voltage halogen lamps incorporating GU10 bases. Please check with lamp manufacturer to determine suitability.

K4781 WHI 10
1 GANG SP TWO-WAY
WITH WIDE ROCKER

K4782 WHI 10
2 GANG SP TWO-WAY
WITH WIDE ROCKERS

K4783 WHI 10
3 GANG SP TWO-WAY
WITH WIDE ROCKERS

K4785 WHI 10
1 GANG SP INTERMEDIATE
WITH WIDE ROCKER

MOUNTING BOXES
FLUSH: 3995 ZIC
SURFACE:
K2160 WHI
K2140 WHI (for extra wiring space)

These switches do not have to be derated when used with fluorescent or inductive loads.

DIMENSIONS: 86 x 86mm
FIXING CENTRES: 60.3mm
BS EN 60669-1: 2000

20 AMP DP VERSIONS

K4787 is 20 amp DP 1 way version of K4781.

K4788 is 20 amp DP 1 way version of K4782.

BS. 3676: 1989

K4841 WHI 5
1 GANG SP
TWO-WAY

K4842 WHI 5
2 GANG SP
TWO-WAY

K4848B WHI 5
1 GANG SP PUSH SWITCH
WITH BELL SYMBOL
PUSH TO MAKE OR BREAK

K4848P WHI 5
1 GANG SP PUSH SWITCH
MARKED 'PRESS'
PUSH TO MAKE OR BREAK

MOUNTING BOXES
FLUSH:
1 GANG: 3921 ZIC
2 GANG: 3922 ZIC
SURFACE:
1 GANG: K2151 WHI
2 GANG: K2152 WHI

These switches do not have to be derated when used with fluorescent or inductive loads.

K4841, K4842 These switches can be wired as either one-way or two-way.

DIMENSIONS:
1 gang: 86 x 32mm;
2 gang: 146 x 32mm
FIXING CENTRES:
1 gang: 60.3mm;
2 gang: 120.6mm
BS EN 60669-1: 2000

K1501 WHI LV 1
1 GANG SINGLE
TWO WAY 60W/VA-500W/400 VA

K1521 WHI LV 1
1 GANG SINGLE
TWO WAY 40W/VA-300W/240 VA

K1522 WHI LV 1
1 GANG DOUBLE
TWO WAY 2 x 40W/VA-300W/240 VA

MOUNTING BOXES
WITH/WITHOUT PATTRESS
(Pattress is supplied with K1501, K1521)

K1522
FLUSH: 861 ZIC/866 ZIC
SURFACE: K2140 WHI

K1501, K1521
FLUSH:
with pattress: 16mm deep min 3995 ZIC
without pattress: 25mm deep min 861 ZIC
SURFACE: K2160 WHI/K2140 WHI

Dimmers comply with BS EN 55015 (CISPR 15) for RFI suppression.
Micro controller based circuitry to provide electronic soft-start and overload protection. Suitable for use with good quality electronic or wire wound transformers. Can also be used with good quality mains voltage halogen lamps incorporating GU10 bases. Please check with lamp manufacturer to determine suitability.

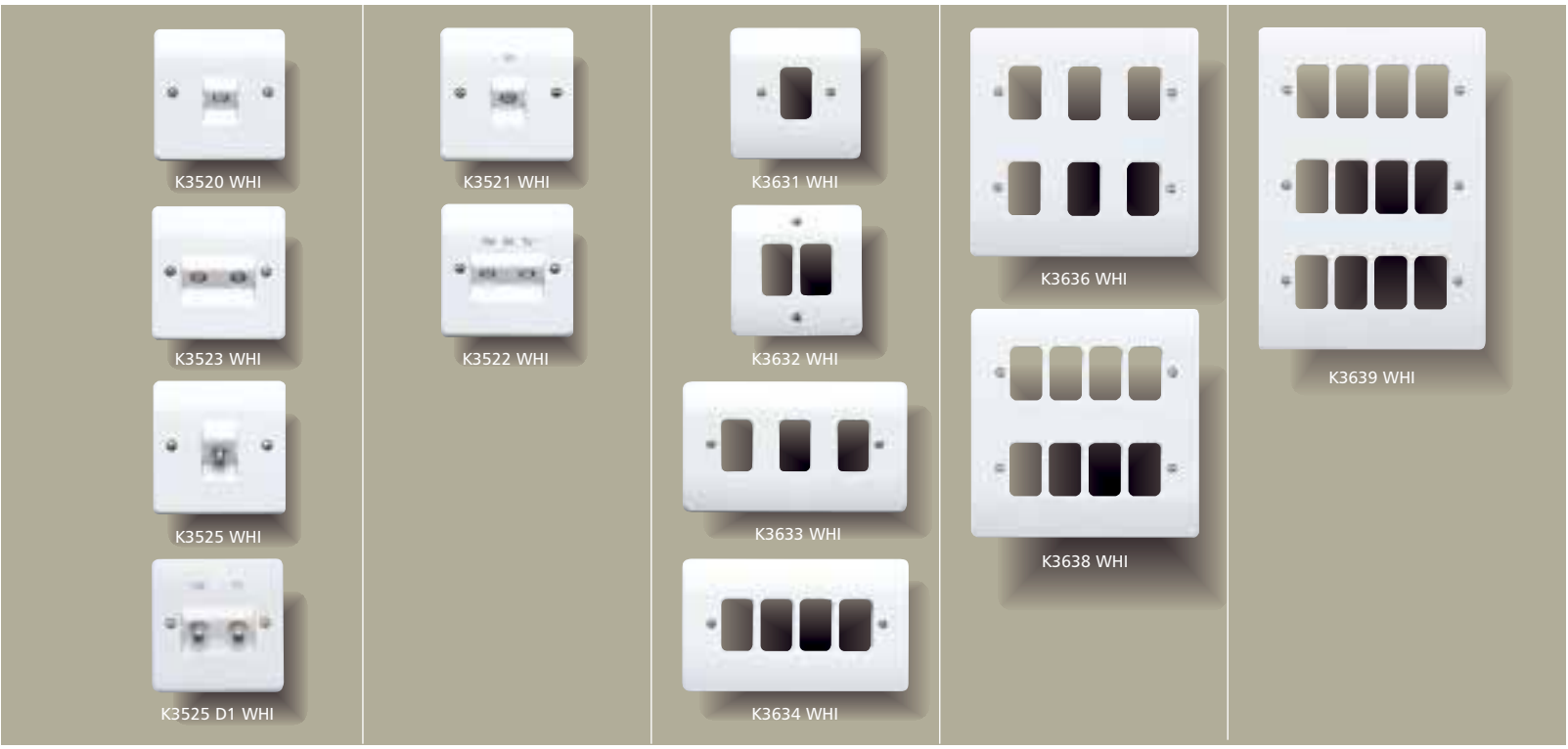
DIMENSIONS: 86 x 86mm
FIXING CENTRES: 60.3mm
Conforms to BS EN 60669-2-1, BS EN 55015

TV/FM and Satellite Co-Axial Socket Outlets

Grid Plus Frontplates

NON ISOLATED
FLUSH

ISOLATED
FLUSH



K3520 WHI 10
SINGLE OUTLET

K3523 WHI 10
TWIN OUTLET

K3525 WHI 10
SINGLE F TYPE
SATELLITE SOCKET

K3525 D1 WHI 10
TWIN F TYPE
SATELLITE SOCKET

MOUNTING BOXES

FLUSH:
861 ZIC

SURFACE:
K2140 WHI

Single outlet for connection to a single TV or FM co-axial aerial lead. Twin outlet for connection to each of two separate TV/FM, co-axial aerial leads.

DIMENSIONS: 86 x 86mm

FIXING CENTRES: 60.3mm

BS. 5733: 1995
where applicable

BS.3041: 1977
IEC 169-2: 1965

K3521 WHI 10
SINGLE OUTLET

K3522 WHI 10
TWIN OUTLET
WITH FM/TV DIPLEXER

MOUNTING BOXES

FLUSH:
861 ZIC

SURFACE:
K2140 WHI

Provides safety isolation rated at 2000Va.c. between aerial lead and socket.
Single outlet for connection to a single TV or FM co-axial aerial lead. Twin outlet with TV/FM diplexer for connection to single co-axial aerial lead with combined TV & FM signals.

DIMENSIONS: 86 x 86mm

FIXING CENTRES: 60.3mm

BS. 5733: 1995 where applicable
BS.3041: 1977 IEC 169-2: 1965

K3631 WHI 10
1 MODULE

K3632 WHI 10
2 MODULE

K3633 WHI 10
3 MODULE

K3634 WHI 10
4 MODULE

All modules from the Grid Plus range can be used with these frontplates.

DIMENSIONS:
1 & 2 MODULE: 86 x 86mm
3 & 4 MODULE: 86 x 146mm
6 & 8 MODULE: 146 x 146mm
12 MODULE: 206 x 146mm

BS. 5733: 1995

K3636 WHI 1
6 MODULE

K3638 WHI 1
8 MODULE

K3639 WHI 1
12 MODULE

TECHNICAL HOTLINE +44 (0)1268 563720

St. James' Park, Newcastle

Dominating the skyline of Newcastle upon Tyne, the St James' Park Stadium has become as much a landmark of the city as its world famous bridge. Home to six times FA Cup winners and four times League champions, Newcastle United FC, St. James' Park has the second largest capacity of all grounds in the English Premier League.

Although the wiring devices to be used in the job were an open specification, Bill Yates, contract manager at Balfour Kilpatrick, decided to use MK Electric's Logic Plus range throughout the corporate hospitality suites and bar areas. The reason for his decision was simple. "We have been using MK's wiring devices continuously over the past 30 years, because we have found the company's products to be unbeatable on reliability and performance."

M&E Contractor Balfour Kilpatrick

Manager Guide

This User Guide tells you how to operate your intruder alarm system. To simplify this User Guide we have assumed that the alarm system has been installed by a professional intruder alarm system installer (the installer), and that the system is operated in a "typical" way. Aspects of you system that are not "typical" will be described by your installer.
NOTE: If you have any questions about your intruder alarm system, then consult your installer, see contact details at the front of this User Guide.

Indications on the system

Indications	
LED steady on indication	
LED flashing indication	
LED off	
Internal Sound	
External Device: Strobe	
External Siren: Bell	

Using System

After you had finish system setting, you can use the system now. This section gives an operation of how to set and unset the system as well as how to reset after an alarm.

Table of Contents

Indications on the system 1

Using System 1

Table of Contents 2

How to Set Chime zone? 3

Change and Set up Codes 4

View Alarm Log 5

How to authorize Engineer access? 5

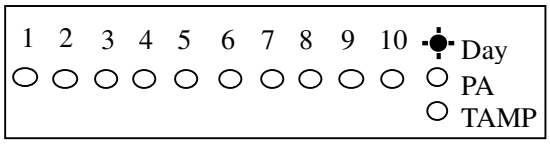
Testing the System 6

The manage mode which is the high authority has the part function of the whole system. The Manager structure is shown in the following table:

MENU OPTIONS
& Set up Chime
1 Set up codes
2 View alarm log
3 Authorize Engineer access
9 Test System

How to enter Manager program mode?

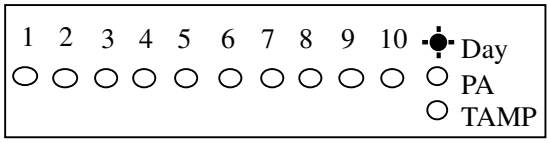
- Enter Manager program mode.
- Press PROG 0 1 2 3



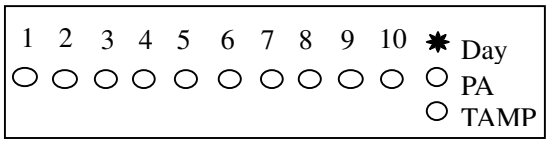
Note: if there is no key in current status, system will exit in 1 minute.

How to Set Chime zone?

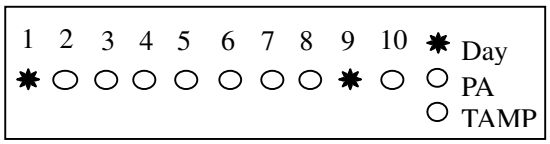
- Enter Manager program mode.



- Press & to Select Set up Chime.
  Zone 1~10 LED Off indicate all zones is not Chime zone.



- Press zone number to select which chime zone you want to set
  For example, select zone 1 and zone 9, then Press 1 and 9.



- Press RESET to leave or SET to accept the change.

Change and Set up Codes

There are 6 codes used in the system, all are 4 digit and can be set to any number from 0000~9999. The access codes ensure that only authorized users can operate the system.

User 1 and 2 code

The user 1 and user 2 codes can change by themselves, Setting and Unsetting.

Holiday code

The purpose of this code is to allow access to the property whilst the manager is absent. The holiday code is programmed by the manger or engineer and is only valid until the Manager accesses the system. At this point the holiday access code becomes invalid and is no longer accepted by the control panel.

Duress code

Should be used in a hold up situation where there is pressure to Set or Unset the system. Entry of the code will allow the system to work normally but also generate a silent PA type alarm by operating the PA communicator output. The duress code is not applicable for LED System.

Engineer code

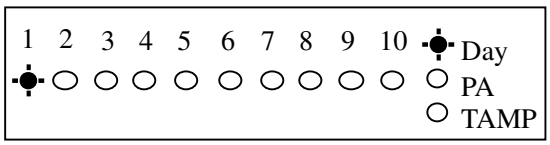
Access the Engineer Program mode to allow the system to be programmed. The engineer code will not set or unset the system.

Manager code

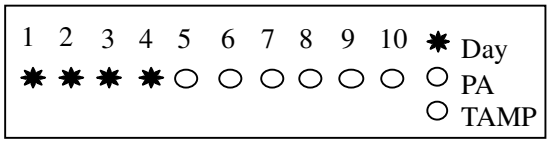
Manager code has the authority to change or delete all codes, authorize Engineer access.

How to Set Up User code

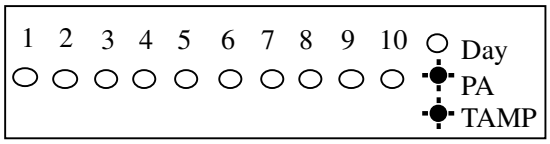
- Enter Manager program mode.
- Press (1) to select Set up User codes.



- Press (1) to change User 1.



- Enter the new user 1 code (4 digits)
  (?) (?) (?) (?) New code



- Press (RESET) to leave or (SET) to accept the change.

CAUTION: Entering an invalid user code will operate the code tamper. After 9 incorrect keys pushes a full alarm condition will be generated.

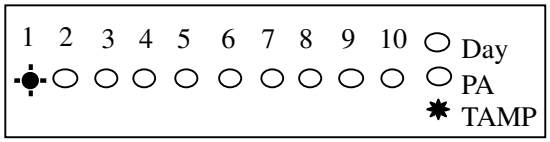
View Alarm Log

Press: (1) Jump to oldest event
(2) Move one event older
(3) Move one event newer
(4) Jump to newest event
(9) Clear all alarm event

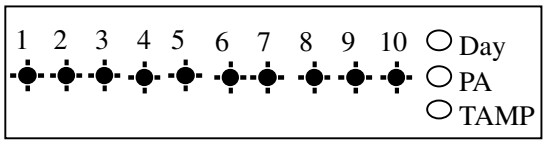
After selecting Alarm Log the zone, PA and Tamper LED's will show the latest event
A flashing LED indicates the zone that was first activated.
Any other LED lit was activated after the first event but before system unset.

• Enter Engineer code

• Press (2) to select view alarm event.
LED 1flashing indicate Zone 1 is triggered first.
TAMPER is triggered after Zone 1



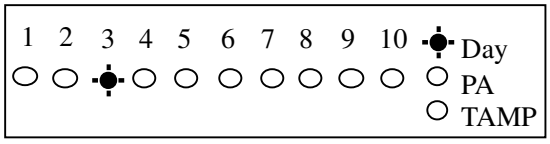
• Press RESET to leave view alarm log menu.



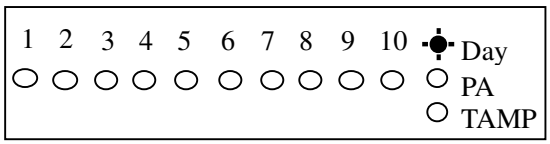
How to authorize Engineer access?

• Enter Manager program mode.

• Press (3) to authorize Engineer access.
Then Engineer can access program mode
within one hour.



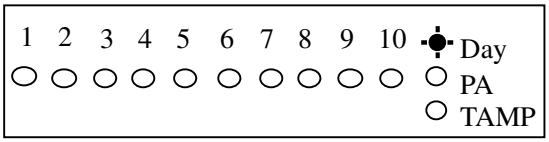
• Press to RESET leave the current menu.



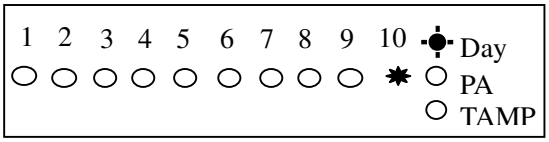
Testing the System

The Test item contains: 0=Bell Test, 1= Strobe Test, 2=Speaker Test, 3=Set + Test, 4= Fire Test, 5= PA Test, 6= Intruder Test, 7= Abort Test, 8= Walk Test, 9= Zone status Test.

- Press (9) to Select Test System.

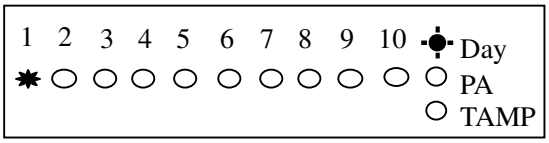


- Press (0) to select Bell test.



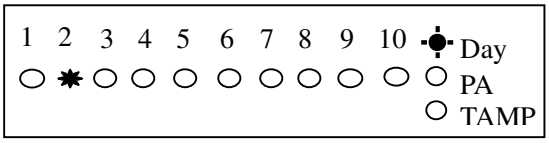
Bell on

- Press (1) to select Strobe test.



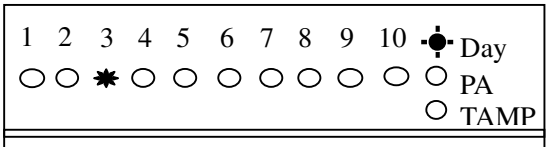
Strobe on

- Press (2) to select Speaker test.

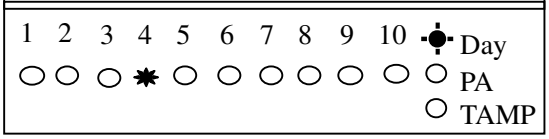


Alarm sound

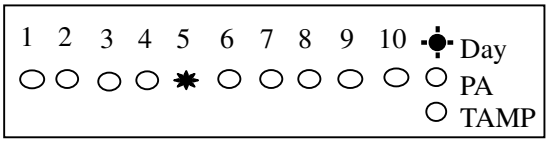
- Press (3) to select Set communicator output test.



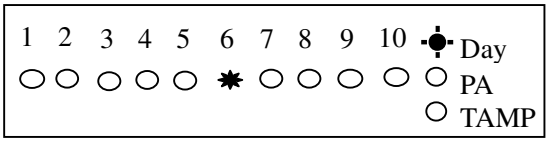
- Press (4) to select Fire communicator output test.



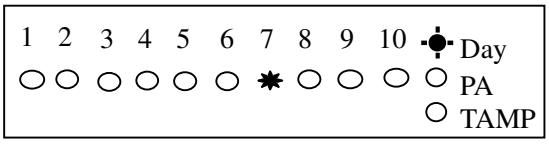
- Press (5) to select PA communicator output test.



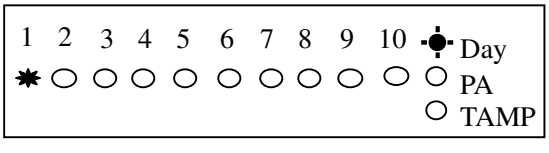
- Press (6) to select Intruder communicator output test.



- Press (7) to select Abort communicator output test.



- Press (8) to select Walk test.
  Trigger a zone and its appropriate led will light.



- Press RESET to exit current level.
- Press RESET to leave manager mode.

Strobe on

x1 for zone 1
x2 for zone 2...

marco
cablemanagement

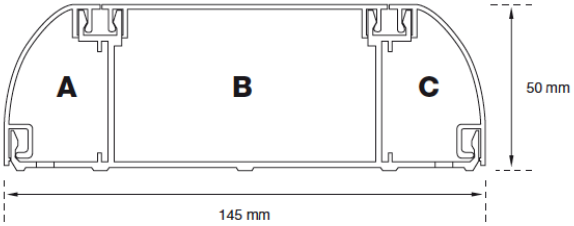
ELITE Compact Trunking System
Introduction Booklet

elite
RANGE

Marco Elite Compact

MEC3

145 x 50 mm



Marco's new ELITE Compact data trunking system offers an innovative design solution for the growing data cabling market. At 145mm x 50mm, the symmetrical curved design allows for a large number of cables to be housed in installations where space is restricted.

The high impact resistant uPVC, means the trunking systems are both sturdy and robust and able to accommodate a greater number of cables. They are produced from the highest quality uPVC, providing an aesthetically pleasing pure white finish.

To allow for a quick and simple installation, the Compact base and internal walls are pre-punched, and a hinged lid has been incorporated into the design to allow for cables to be fed into position with ease.

The trunking is available with a full range of fittings and accessories, including the moulded flat angles and tees, along with the newly designed two-piece adjustable bends to accommodate installations where 90 degree corners are unobtainable. Screw fit' fittings are available on request.

The system has been designed to accommodate the new open socket mounting frames. This utilises the full 50mm depth and allows for the use of deeper RJ45 Modules.

An optional pre-punched steel screen divider is available. This spans the width of the trunking and meets the requirements for power and data separation (BSEN50174-2).

ELITE Compact meets and exceeds the requirements for (BS6701), ISO/ IEC11801(ED2.0 Amd 2) and Cenelec (BSEN50173 Part 1 / 2, BSEN50174-2) standards.

Please contact our Sales Team for further information on the range.

Elite Compact Key Design Features

KEY DESIGN FEATURES

- 145mm x 50mm profile
- Aesthetically pleasing curved design
- Manufactured from high impact resistant uPVC compound
- Suitable for Dado or Skirting mounting either vertically or horizontally
- Hinged lids to support cables during installation
- Pre-punched base
- Large pre-punched knockouts located on both internal walls
- Full range of fittings and accessories
- Attractive two piece adjustable Internal & External covers to accommodate walls that do not have a true 90 degree
- Internal and External Angles maintain necessary bend radius to comply with British, European and International standards
- Moulded Flat Tee and Flat Angle with data guide to maintain necessary bend radius and cable segregation
- Moulded Flat Tee and Flat Angle overlap trunking to prevent need of additional Joint Covers
- Screw fit fittings available (optional)
- 1 & 2 Gang open sided frames
- Pre-Punched Steel Screen Divider (BSEN50174-2)
- DDA Compliancy obtainable
- ROHS Compliant
- ELITE Compact Hygieia Range available – antimicrobial protection

Join the elite

Electrical Times has a new product tester in the shape of Barry Jenkins, a qualifying supervisor with Electrical Management Services – winners of last year's Electrical Contractor of the Year Award. This month he tries out Marco's recently launched Elite trunking range on a project at the Dorchester Hotel

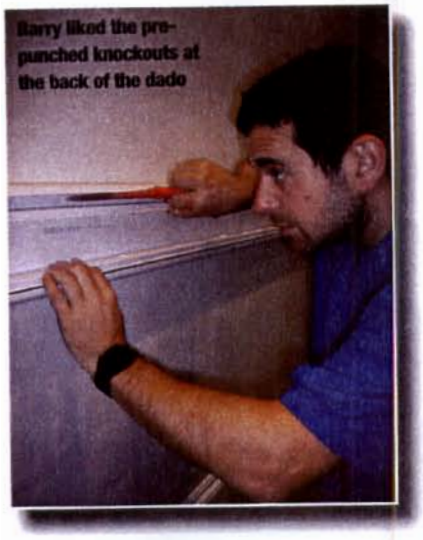
Okay, I'll admit it; I was more than a little intimidated. After all, this was The Dorchester. *The Dorchester*. The name alone is synonymous with the very notion of the luxury hotel and, by extension, the very concept of quality. They've won more awards than I care to think about, including three Michelin stars. Guests have included everyone from Winston Churchill and Dwight D. Eisenhower to Marlene Dietrich and Lady GaGa. I couldn't believe it. We had been contracted to undertake work in a hotel that had accommodated someone as historically notable and culturally significant as *Lady GaGa*.

Like I said: intimidated.

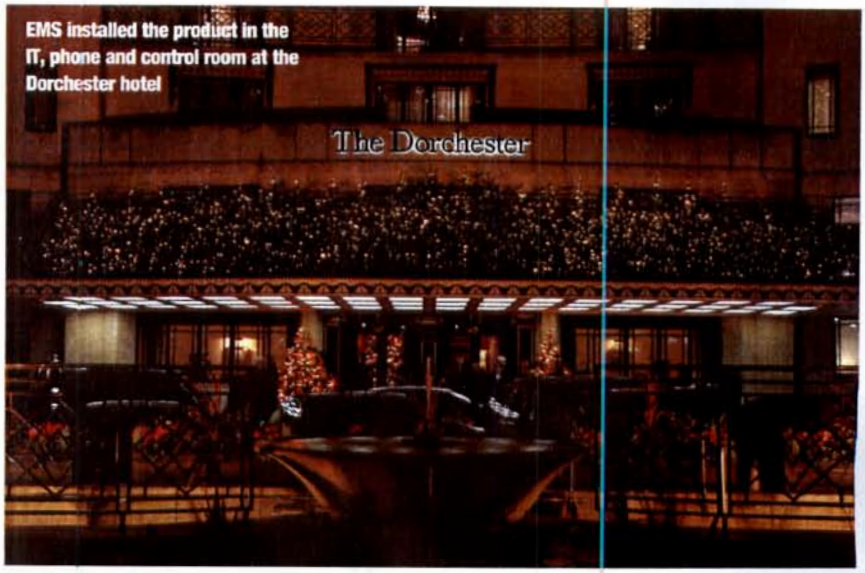
Aesthetics

Now, when I'm considering which product to use for a particular project, I rarely find myself saying, "Yes, it's effective, but is it aesthetically appropriate?" In fact, I'm almost entirely certain that I've never said that. I'm pretty sure I'd remember.

But this was The Dorchester. Okay, so we were installing a trunking system in the IT, Phone and Control Room, not the foyer, but finding a product that would complement the hotel's decor was suddenly a priority.



Barry liked the pre-punched knockouts at the back of the dado



EMS installed the product in the IT, phone and control room at the Dorchester hotel

By a happy coincidence, we'd been commissioned to review Marco's Elite Compact Trunking system so we asked if we could change the spec and try it out at this particular venue. The fact that the client said yes will tell you something about the aesthetics of the new product.

The trunking is made from a very fine quality uPVC which gives it a high-gloss, pure-white finish. Very bright, very clean. Marco assured us that it's high-impact, so it's designed to keep its shine over time as a result of day-to-day bumps and scrapes. The manufacturer has also rejected the traditional 'boxy' design common to most trunking solutions in favour of something so curved its almost aerodynamic; the sweeping profile is more Ferrari than Transit van. And, finally, two-piece adjustable internal and external covers disguise walls that don't connect at a true 90 degrees. In a nutshell, it looks good and the client thought so, too.

That's enough about the aesthetics. We are electrical contractors, after all, not interior designers. So how did the Elite perform from a practical point of view?

Well, it's very competitively priced and, as with all Marco products, the Elite was readily available and swiftly delivered, enabling us to 'green light' the project without any delay. Once the Elite had arrived, our experienced electricians on this job, Adam Blackburn and Paul Radford, thoroughly inspected it and declared it sturdy and robust. And by 'thoroughly inspected', I mean 'attempted to brutally mutilate'. As well as passing the Adam and Paul mutilation test, The Elite passes all the relevant British, European and International criteria, meeting and exceeding requirements for (8S6701), ISO/IECII801 (ED2.0 Amd 2) and Cenelec (BSEN50173 Part 1/2, BSEN50174-2) standards.

Time is money

One of the time-consuming aspects of most extensive trunking projects is the drilling of the back of the dado to carry out fixings. For The Elite, Marco have introduced pre-punched knockouts. So, no drilling. These pre-drilled fixing holes occur every 200mm and are elongated, making it quick and easy to line up the dado with the wall plugs. That's a big time saving. This reduced the number of hours we had to spend on site, which means we had a happy customer because they could get

back to business as usual sooner rather than later.

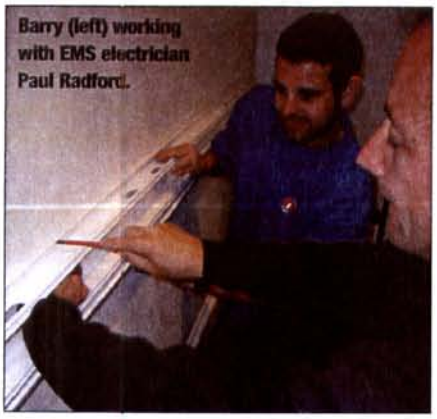
Marco score more points on time-saving with another interesting new feature. With most trunking, it is necessary to buy dividers separately and then snap them into place, which, of course, takes time. The Elite has dividers incorporated into the design, so no extra purchases required and no time wasted putting everything together. In addition, the curved lid can be hinged down, so we were able to install circuit cables very quickly, without the need for cable retainers, and snap the lid back into place. That said, although snapping the lid into place was easier than it is with some products on the market, it has to be noted this was still quite a fiddly process.

Of course, bringing a project in on schedule and to budget, whilst critical, are only two indicators of the success of a particular assignment. The most important question is always, were the results effective?

Results

We worked very closely with our client's own data contractor on this project. Not only did the installation have to be cost-effective and produce an absolute minimum of disruption to the hotel, its staff and its guests, it had to provide an efficient and durable solution to The Dorchester's cabling demands. In this respect, Marco could be said to have over-delivered. The hotel's data contractor was delighted to discover that the Elite, despite being a 'compact' trunking system, could house more cables than initially anticipated in the curved section. He also found it extremely easy to work with.

Another fundamental measure of a product's effectiveness is its longevity, a decisive factor of which is its ability to adapt and be adapted. You'll have to get back to us on how the product weathers over time, but we did find it to be pretty flexible. For example, it has been designed to accommodate the new socket mounting frames, utilising the full 50mm depth to enable the use of the deeper RJ45 modules. That said, the wide range of accessories available doesn't yet include conduit adaptors, meaning we had to cut into the product to fit adaptors of our own.



Barry (left) working with EMS electrician Paul Radford.

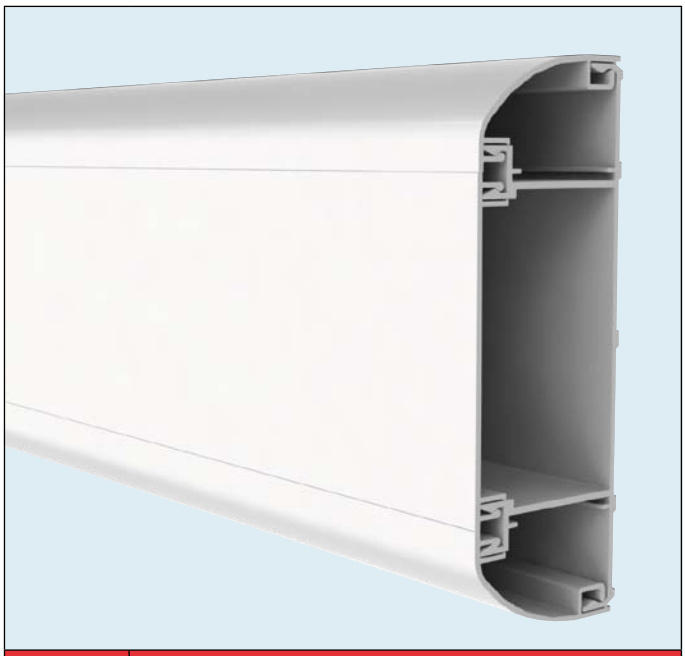
The verdict

Quick to install, tough as old boots (but as pristine as patent leather) and as future-proof as anything in the electrical contracting industry can declare itself, Marco's Elite Compact Trunking System met with full approval of The Dorchester. Yes, The Dorchester. High praise, indeed.

I'd like to think, given the speed we demonstrated on the project, the people at The Dorchester might have been a little intimidated by us. **● Circle enquiry no. 97**

elite RANGE

Elite Compact Accessories

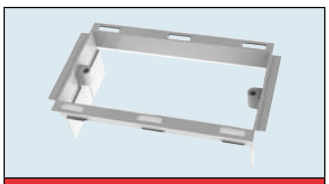


CODE	MEC3
DESCRIPTION	MARCO ELITE COMPACT TRUNKING 145 x 50mm
PACK SIZE	2 x 3m

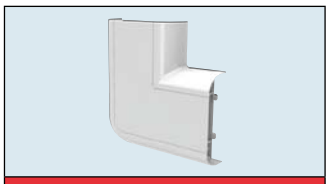
MTSB1
SOCKET MOUNTING BOX 35mm 1-GANG
MTSB1-4
SOCKET MOUNTING BOX 35mm 1-GANG 4 PILLAR
MTSB1-25
SOCKET MOUNTING BOX 25mm 1-GANG
MTSB1-25-4
SOCKET MOUNTING BOX 25mm 1-GANG 4 PILLAR
PACK SIZE: 10

MTSB2
SOCKET MOUNTING BOX 35mm 2-GANG
MTSB2-25
SOCKET MOUNTING BOX 25mm 2-GANG
PACK SIZE: 10

MTSB1-F
1 GANG FRAME
PACK SIZE: 10

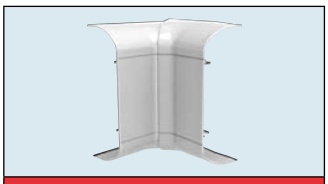


MTSB2-F
2 GANG FRAME
PACK SIZE: 10



MEC3F
FLAT ANGLE
PACK SIZE: 1

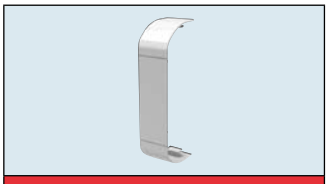
MEC3T
FLAT TEE
PACK SIZE: 1



MEC3I
INTERNAL ADJUSTABLE ANGLE
PACK SIZE: 1

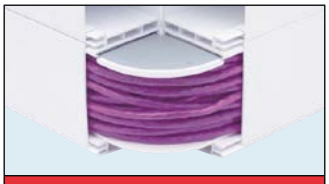
MEC3E
EXTERNAL ADJUSTABLE ANGLE
PACK SIZE: 1

MEC3C
END CAP
PACK SIZE: 2



MEC3J
JOINT COVER
PACK SIZE: 5

MEC3SD
STEEL SCREEN DIVIDER
PACK SIZE: 4 x 1.5m

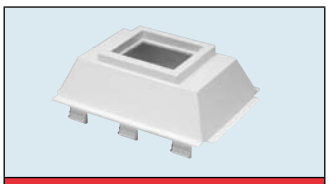


MEC3SDE
ELITE COMPACT EXTERNAL ANGLE SCREENING DIVIDER
PACK SIZE: 1

MTDDA1 (BL-BK-CH-LG)
COLOURED BACK PLATE 1-GANG
PACK SIZE: 10

MTDDA2 (BL-BK-CH-LG)
COLOURED BACK PLATE 2-GANG
PACK SIZE: 10

MTLS
ACCESSORY SPACER
PACK SIZE: 10

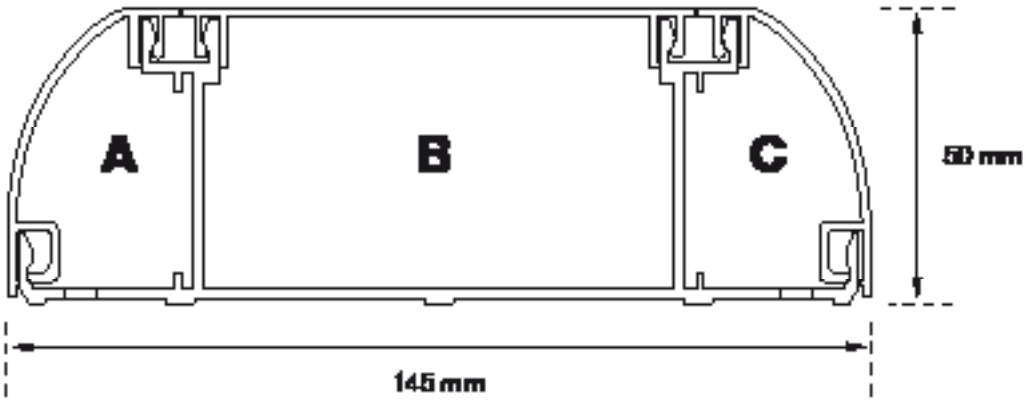


MTRCDH
RCD/MCB DIN RAIL HOUSING
PACK SIZE: 1

BL-BLUE BK-BLACK CH-CHARCOAL LG-LIGHT GREY

SECURITY FITTINGS AVAILABLE - PLEASE ADD SUFFIX **SF** TO THE STANDARD CATALOGUE NUMBER

Elite Compact Technical Information



Dimensions & Cable Capacities

Data Cable Diameter	Nominal CSA	Compartment A 1040mm²	Compartment B			Compartment C 1040mm²
			3590mm²	3590mm² & 25mm Box	3590mm² & 35mm Box	
		45% Fill (468mm²)	45% Fill (1615mm²)	45% Fill (813mm²)	45% Fill (488mm²)	45% Fill (468mm²)
5mm	19.6mm²	24	82	41	24	24
5.5mm	23.8mm²	20	67	34	20	20
6mm	28.3mm²	17	57	28	17	17
6.5mm	33.2mm²	14	48	24	14	14
7mm	38.5mm²	12	41	21	12	12
8mm	50.3mm²	9	32	16	9	9
9mm	63.6mm²	7	25	12	7	7
10mm	78.5mm²	6	20	10	6	6

Power Cable Conductor CSA	Cable Factor	Compartment A 1040mm²	Compartment B			Compartment C 1040mm²
			3590mm²	3590mm² & 25mm Box	3590mm² & 35mm Box	
		45% Fill (468mm²)	45% Fill (1615mm²)	45% Fill (813mm²)	45% Fill (488mm²)	45% Fill (468mm²)
1.5mm²	8.8	53	187	99	61	53
2.5mm²	12.6	36	126	67	41	36
4mm²	16.6	27	97	51	31	27
6mm²	21.2	21	76	40	25	21

Typical cable loading information in line with wiring regulation BS 7671 (45% CSA Fill)

Standards

ELITE Compact trunking system meets and exceeds the requirements for:

BS6701, ISO/IEC11801(ED2.0 Amd 2) and

Cenelec (BSEN50173 Part 1 / 2, BSEN50174-2) BS4678 Pt 4, BS7671 (IEE regs)

Company History

Marco Cable Management was launched in 2003 by industry expert, Ian MacGregor, as a UK-based cable management manufacturer of quality uPVC data containment systems and Steel Wire Cable Tray products. During its seven year history, the business has enjoyed rapid growth and great success and today is considered a leading force within its specialist market.

With an over-riding focus on meeting the needs of Electrical Consultants and Installers, in partnership with the Electrical Distributor, Marco has continued to grow and develop its uPVC Trunking and Steel Wire Cable Tray systems; to offer new product ranges and accessories that suit existing, new and emerging markets.

Since its launch in 2003, Marco has continued to invest in its modern manufacturing facility based in Anglesey, North Wales. This has enabled the company to produce its goods in-house, and to ensure that Marco products are designed and built to the highest quality and standard, using the finest material ingredients available. Today, the company employs a direct workforce of over 50 people, with the far majority having remained with Marco since its early days. All employees are highly skilled and trained within their area of focus and are encouraged to upskill and develop professionally within the company. Marco prides itself on its high staff retention rates and positive employment ethos.

Marco is the leading UK manufacturer of Steel Wire Cable Tray and the only one to operate high specification in-house testing equipment, which will ensure all products are fully compliant with IEC61537 and related standards. Within its on-site manufacturing facility, regular full deflection tests are carried out on all our products alongside alternative configuration testing with a view to developing the next generation of Trays for both the UK and European markets.

During the past 12 months, the company has made a number of key appointments including that of Sales Director, Paul Diggins, and Business Development Manager, Steve Davis. They have expanded their direct sales team, recruiting nationally and ensured full coverage across the UK with sales representatives assigned to specific areas. In 2010, the company has a solid group structure in place which includes an external sales force as well as a central sales team, product development, administration and financial teams. With such firm foundations in place, the company is ideally positioned to deliver its ambitious five year growth and development strategy.

Marco's products continue to be installed across all sectors on a public and private sector basis including schools and colleges, hospitals, banking, retail and leisure developments. With a growing customer base and an evolving product range, Marco is confident that it can continue to deliver in terms of service, quality and choice.

elite RANGE

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Anglesey
LL77 7XA

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email: sales@marcocableman.co.uk

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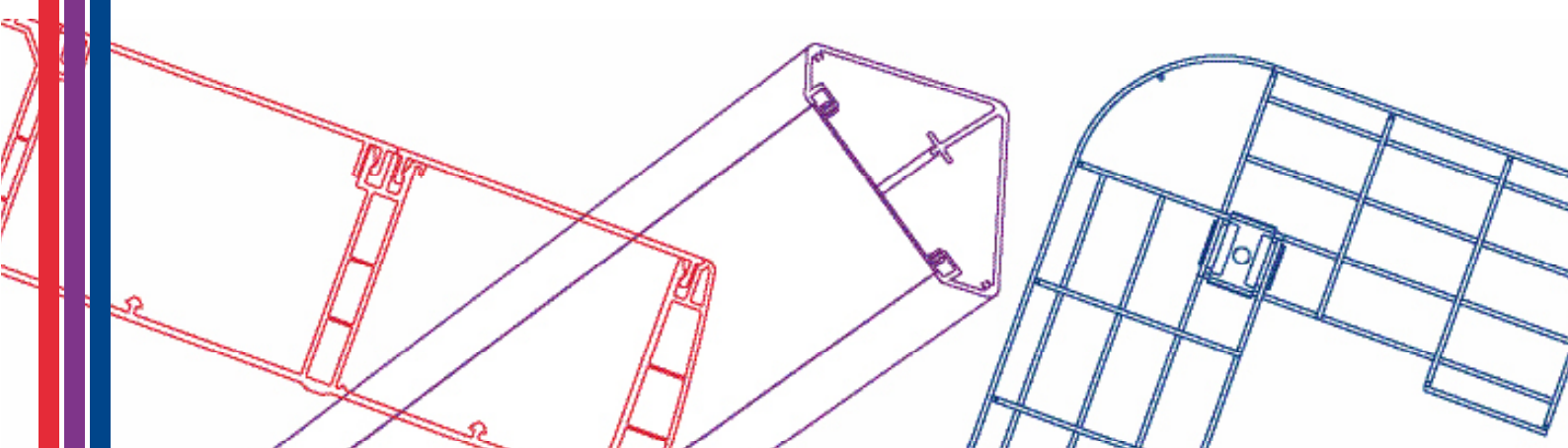
Fax - 01248 725 788

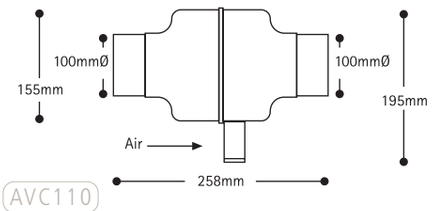


avCAT[issue20] 23/5/11 14:27 Page 27

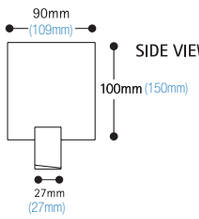
features

- **NEW Part L and Part F compliant fans**
- **safe, remotely mounted**
- **AVX100: 23 litres/sec (85m³/hr)**
  AVC110: 31 litres/sec (110m³/hr)
  AVX150: 64 litres/sec (230m³/hr)
- **quiet yet powerful**
- **suitable for in-duct mounting only**

dimensions



AVC110

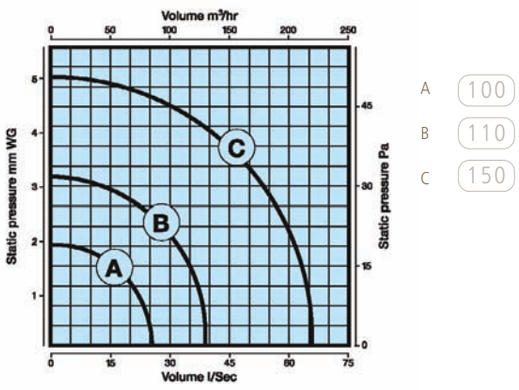


AVX100(150)

performance

	m³/hour	*airflow litres/sec*	*pressure pa (max)*	*noise level dB(A)@ 2m*	*power W*
AVX100IDT/LF	85	23/24	–/20	41	20/10.4
AVC110IDT	110	31	120	45	25
AVX150IDFT/LF	230	64/63	–/50	40	25/20.2

performance for In-duct range (excluding LF)



A 100
B 110
C 150

technical data

RATING: 220-240V ~AC, IP24; ⧈ ⚠; **FAN SPEED:** 2400rpm; **CONSTRUCTION:** double-insulated impact-resistant ABS thermoplastic; **MOTOR:** single phase induction motor with pre-oiled bearings. Thermal overload protection; **MAXIMUM OPERATING TEMP:** 40°C. CE

IP 24 ZONE U WARRANTY 5 EXCHANGE

AVXIDTLF

NEW

specific fan power

NOW:
100 model 0.43
150 model 0.31
W/litres/sec

key data: AVX150IDFT

Airflow m³/hour	230	Power Watts	25
litres/sec	64	Noise dB(A)	40

the in-duct range

AVX100IDS Axial In-Duct Manual model, supplied with fixed grilles and 3m of ducting. Supplied as a complete kit ready to fit.

AVX100IDT As AVX100IDS above, with integral adjustable timer: 1-20 mins. Supplied as a complete kit ready to fit.

AVX100IDFT Axial In-line timer (fan only) with integral adjustable timer: 1-20 minutes.

AVC110IDS Centrifugal In-Duct Manual, supplied with bracket. Supplied as a fan only.

AVC110IDT Centrifugal In-Duct Timer, with integral adjustable timer: 1-20 minutes. Supplied as a fan only.

AVC110IDSK **NEW** As AVC110IDS standard above, comes with 2x 3.0m PVC ducting, grille fixing clips, cable ties ,screw plugs as well as both internal and external grilles.

AVC110IDTK **NEW** As AVC110IDT timer above, comes with 2x 3.0m PVC ducting, grille fixing clips, cable ties ,screw plugs as well as both internal and external grilles.

AVX150IDFT Axial In-Duct Timer (fan kit), with integral adjustable timer: 1-20 minutes.

AVX150IDFTR Axial In-Duct Timer (fan only), with integral adjustable timer: 1-20 minutes.

AVX100IDTLF **NEW** 100mm Timer model incorporating integral adjustable electronic timer (1-20 mins). Also comes with 1.5m PVC ducting, grille fixing clips, cable ties ,screw plugs as well as both internal and external grilles.

AVX150IDFTLF **NEW** 150mm Timer model incorporating integral adjustable electronic timer (1-20 mins). Also comes with 3m PVC ducting, grille fixing clips, cable ties, screw plugs as well as both internal and external grilles.

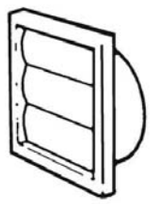
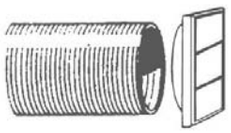
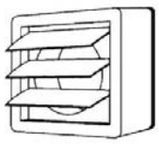
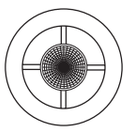
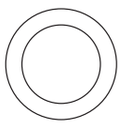
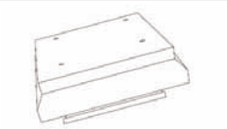
accessories

AVA212C 100mm Chrome Bezel.
AVA212B 100mm Brass Bezel.
AVA213C 150mm Chrome Bezel.
AVA213B 150mm Brass Bezel.
AVA440 100mm Condensation Trap.

See pages 57-64 for the full range of accessories.

avCAT[issue20] 23/5/11 15:20 Page 62

THE |ACCESSORY| RANGE

	Product Code	Qty	Description
	AVA160	1	100mm External Gravity Grille
	AVAB161B/G/T/W	20	100mm External Gravity Grille
	AVA180	1	125mm External Gravity Grille
	AVA200	1	150mm External Gravity Grille
	AVAB202B/G/T/W	10	150mm External Gravity Grille
	AVA1209	1	230mm External Gravity Grille
	AVA1206	1	300mm External Gravity Grille
	AVA401	1	100mm Plastic Air Valve
	AVA066	1	125mm Plastic Air Valve
	AVA083	1	150mm Plastic Air Valve
	AVA096	1	200mm Plastic Air Valve
	AVA270	1	100mm Wall Vent Kit
	AVA271	1	125mm Wall Vent Kit
	AVA280	1	150mm Wall Vent Kit
	AVA295	1	230mm Wall Vent Kit
	AVA302	1	300mm Wall Vent Kit
	AVA269	1	100mm Window Kit - White
	AVA267	1	125mm Window Kit - White
	AVA268	1	150mm Window Kit - White
	AVA211	1	100mm Showerlight Diffuser
	AVA212C	1	100mm Chrome Bezel
	AVA212B	1	100mm Brass Bezel
	AVA213C	1	150mm Chrome Bezel
	AVA213B	1	150mm Brass Bezel
	AVA094	1	200mm Air Diffuser
	AVA703	1	Tumble Drier Kit
	AVA309	1	AVX230 Roof Cowl Termination
	AVA309/1	1	AVX300 Roof Cowl Termination
	AVA447	1	High Rise Installation Kit

mentis

VENTILATION PRODUCTS 06-07

four-inch fans

Designed for quiet and efficient performance, the **mentis** range of mechanical extract fans are manufactured to the highest standards.
The stylishly designed range is easy to install and includes all the models required in the current ventilation market.

the 4" range

ME 100/4 S	4" (100mm) Standard fan
ME 100/4 P	4" (100mm) Standard fan with Pull-cord
ME 100/4 T	4" (100mm) Standard fan with Timer
ME 100/4 HT	4" (100mm) Humidity fan with Timer
ME 100/4 SFS	4" (100mm) Standard Inline Shower fan
ME 100/4 SFT	4" (100mm) Inline Shower fan with Timer
ME 100/4 LVTK	4" (100mm) Low Volt fan Timer kit
ME 100/4 SLTC	4" (100mm) Showerlight fan Chrome
ME 100/4 SLTB	4" (100mm) Showerlight fan Brass

specification

Performance/up to 75m³/hr (21 litres/sec); Sound level/41dB(A) @ 2 metres; Rating/220-240V ~AC 20 W, IP44 (LV IP57); ⧈ ⚠ Construction/double insulated impact resistant ABS thermoplastic; Motor/Single phase induction motor with precised bearings (LV: 12v) all with thermal overload protection; Maximum operating temperature/40°C.

4-inch accessories

ME 100/4 FGG	4" Fixed Grille – Grey (20 pack)
ME 100/4 FGW	4" Fixed Grille – White (20 pack)
ME 100/4 FGT	4" Fixed Grille – Terracotta (20 pack)
ME 100/4 GGG	4" Gravity Grille – Grey (20 pack)
ME 100/4 GGW	4" Gravity Grille – White (20 pack)
ME 100/4 GGT	4" Gravity Grille – Terracotta (20 pack)
ME 100/4 3D	4" PVC Ducting 3m (20 pack)

6-inch accessories

ME 150/6 FGW	6" Fixed Grille – White (10 pack)
ME 150/6 GGW	6" Gravity Grille – White (10 pack)
ME 150/6 5D	6" PVC Ducting 5m (12 pack)

six-inch fans

the 6” range

ME 150/6 S 6” (150mm) Standard fan

ME 150/6 P 6” (150mm) Standard fan c/w Pull-cord

ME 150/6 T 6” (150mm) Standard fan c/w Timer

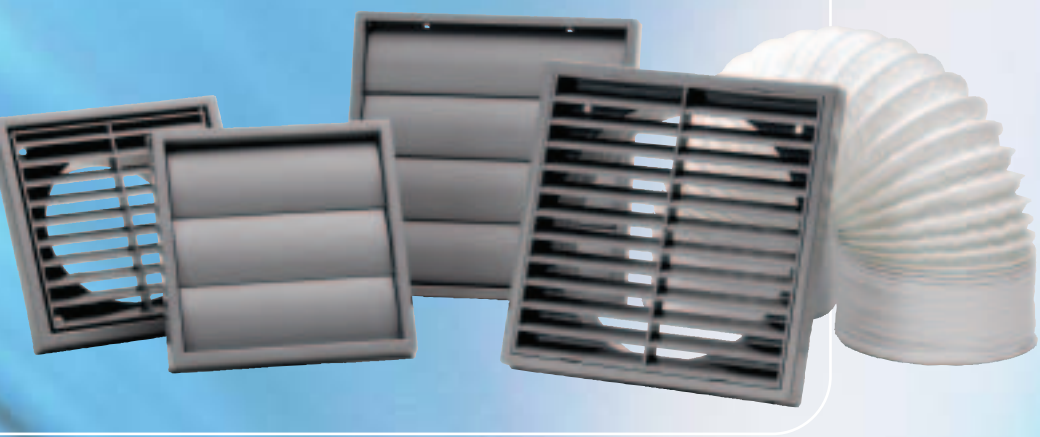
ME 150/6 HT 6” (150mm) Humidity fan c/w Timer

specification

Performance/up to 248m³/hr (69 litres/sec); Sound level/40dB(A) @ 3 metres; Rating/220-240V ~AC 25 W, IP44; ⧈ ⚠ Construction/double insulated impact resistant ABS thermoplastic; Motor/Single phase induction motor with precised bearings with thermal overload protection; Maximum operating temperature/40°C.

accessories

Mentis offer a range of accessories for use with 4-inch and 6-inch fans.



mentis products
Island Park • Bristow Broadway • Bristol BS11 9FB • Tel: 0117 9235 375 • Fax: 0117 9235 374

12 WAY 100A DP ISOLATOR INSULATED - CONSUMER UNIT

Catalogue number: YXL12

Isolator controlled insulated consumer units, offering a range of outgoing circuits from 1 to 40. Incoming Isolators fitted range from 45A to 100A

Key Features List

Modular principle, allows limitless permutations

Original installations can be supplemented to keep pace with user requirements

Easy wiring access provided by removable endplates

Four quarter turn screws provide easy removal of front cover

Units will accept 6kA and 10kA MCBs, RCBOs and Dinrail mounting HRC carriers

Product Specifications

Height:	230.0mm
Width:	359.0mm
Depth:	106.0mm
Standards:	BSEN60439-3
Current rating:	100A max Incomer
Voltage rating:	230V a.c.
Enclosure material:	High Impact Polystyrene
Colour:	Light Grey
Cover door:	Top hinged tinted door
IP Rating:	IP30
Cable Entry Facility:	Breakouts in removable endplates + rear of base
No of Modules:	14
Max outgoing ways:	12
Switchgear fitted:	DP Isolator - 100A
Term capacity in:	50sqmm
Term capacity out:	Dependent on switchgear fitted

Technical Data:

Select a resource from the following list

Related Products

Please select

Order Code	Description:	QTY
YXL12	12 WAY 100A DP ISOLATOR INSULATED - CONSUMER UNIT	1 Add to Basket

auxiliary relay units 24Vdc

The relay is intended to switch addtional field devices via the two relay outputs supplied. An LED is mounted so that it remains visible during the relay operation.

The supply voltage to the relay coil may be continued through the device via the additional terminals supplied. Each device is reverse polarity protected.

Typical usage examples are; automatic door retainers, smoke vents and fan shutdown, which are intended to be operated by an automatic fire system.

- PCB version for mounting inside PSU's, panels, etc.
- self contained version in a metal enclosure
- single gang plate version has 'Auxiliary Relay Operated' text
- custom legend available on request

TECHNICAL

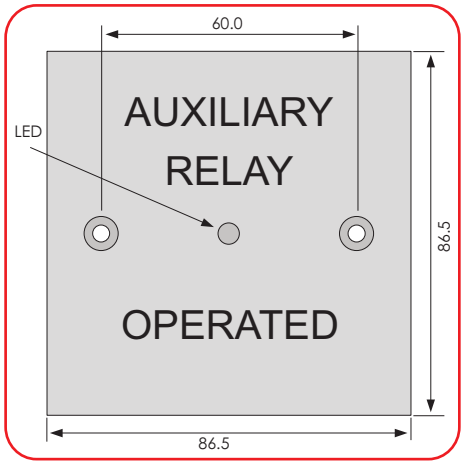
type	PCB	surface mount	metal enclosure
voltage range (Vdc)		18 - 40	
nominal current consumption (mA)		22	
relay contact rating		230Vac 5A	
coil impedance (Ω)		1100	
protection rating	n/a	IP43	IP43
boxed weight (kg)	0.051	0.015	0.612
colours available	n/a	white (ABS fire retardant plastic)	grey

ORDERING INFORMATION

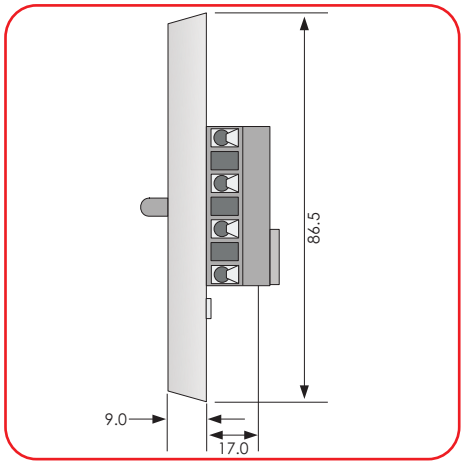
Auxiliary Relay Operated" text, single gang, surface	FBF376N

DIMENSIONS, PRODUCT MOUNTING & CABLE ENTRY

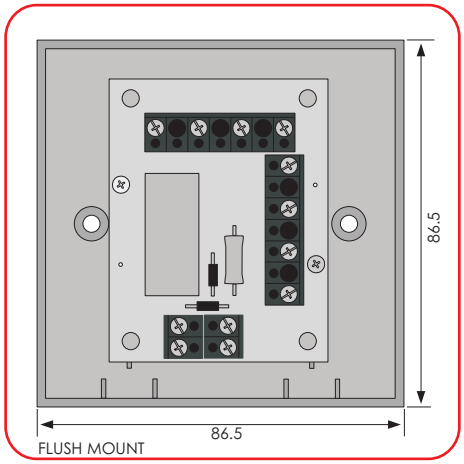
PLAN VIEW



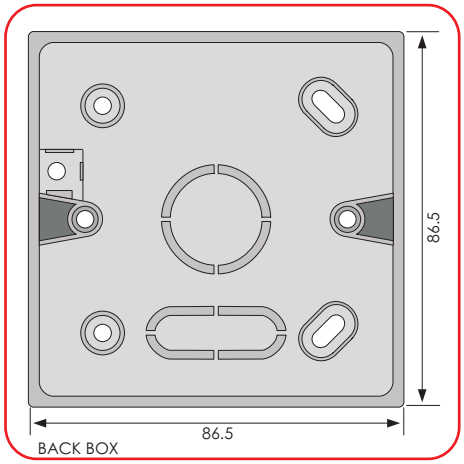
SIDE VIEW



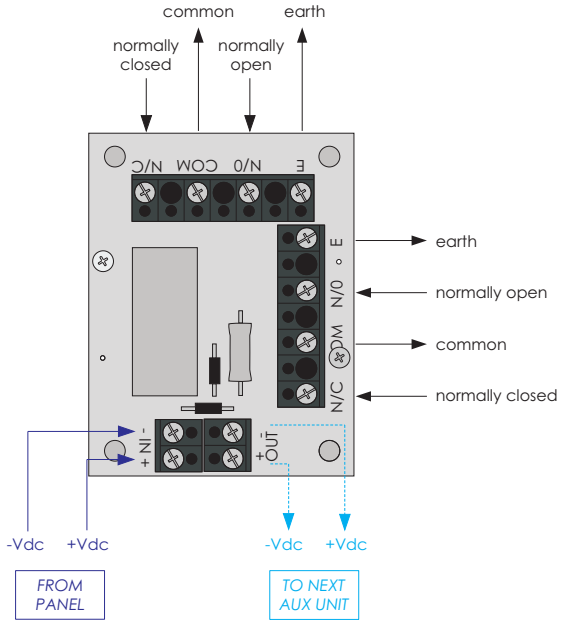
BASE VIEW

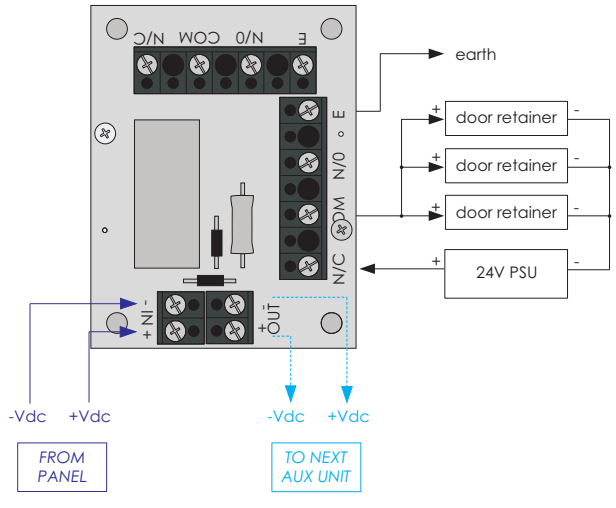


BASE VIEW

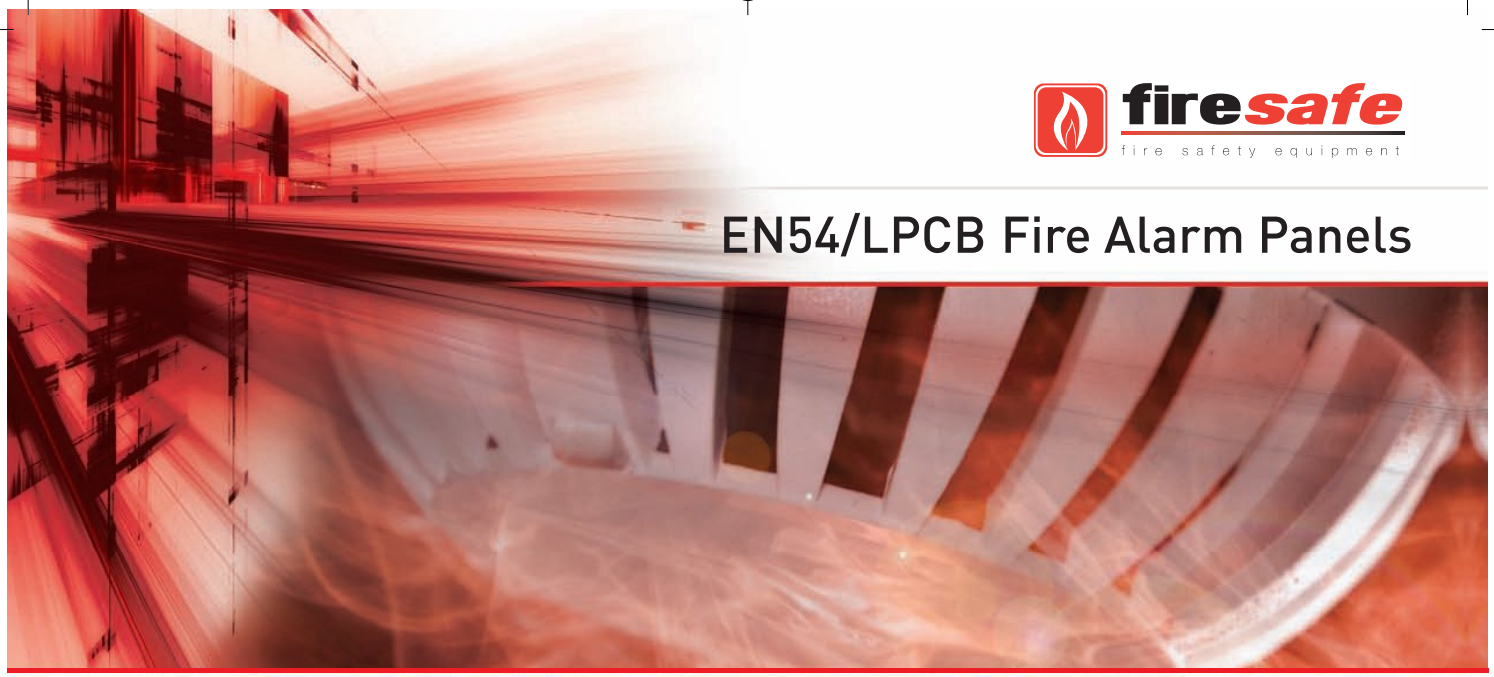


WIRING CONFIGURATION & TYPICAL INSTALLATION





Firesafe Catalogue 06.11:Layout 1 17/6/11 13:17 Page 4



firesafe
fire safety equipment

EN54/LPCB Fire Alarm Panels

NEW

FCFP2/4/8

Zone Standard Conventional EN54 Fire Alarm Panels

- The lid has a combined keypad/keyswitch entry using our new style plastic keyswitch
- Two on board relays provided (Fire and Fault) - previously you needed to purchase an extra relay board for relays
- Our fully approved panel has all of the engineering functions that the original FCFP standard panel, but there will be a note in the instructions saying coincidence or non-latching zones (if used) are outside the scope of EN54
- The panel is compliant with the latest versions of both EN54-2 and EN54-4 (both now Amendment 2). As a result this will mean the panel can be CE marked as being compliant with the Construction Products Directive (CPD) and has battery impedance fault monitoring
- Designed to fully comply with EN54 parts 2 and 4
- Attractive flush or surface mountable plastic lid and enclosure (no bezel required)
- Four conventional sounder circuits
- Class change and alert inputs
- Auxiliary fault, reset remote and auxillary fire outputs (1xFBF376 if relay contacts are required per output)
- Wide range of engineering functions including zone test, non-latching zones, programmable delays and coincidence
- Ancillary connections for up to eight two-wire repeaters and a relay board
- Fully LPCB approved

Firesafe Catalogue 06.11:Layout 1 17/6/11 13:17 Page 5

firesafe
fire safety equipment

EN54/LPCB Fire Alarm Panels

FCFP2/4/8

Why is third-party approval important?

To be third-party approved to a standard by a recognised certification body gives reassurance to the user that you have indeed succeeded in complying with a standard.

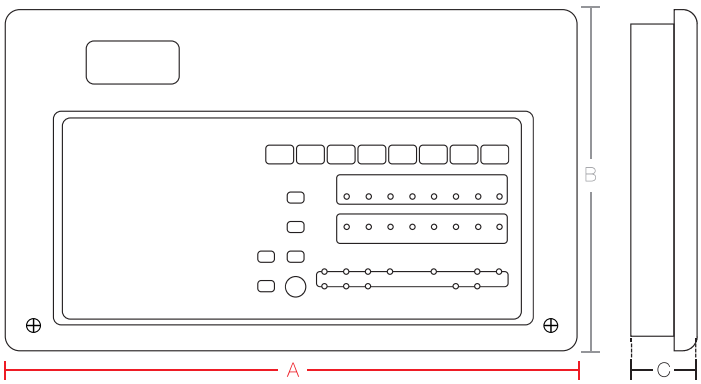
The introduction of the Regulatory Reform (Fire Safety) Order means the onus is now on the person responsible for a building's fire safety to reduce its risk from fire by carrying out a risk assessment and acting upon its findings. If they fail to do so they could face a fine or litigation. Clearly, an effective fire alarm system is key to the fire risk management of most buildings and the best way to prove it is fit for purpose is to show (through certification) that the equipment used is compliant with the relevant standard(s).

If you were the person responsible for the fire safety in your workplace wouldn't you feel safer knowing the product you've had fitted has been third-party certificated? Moreover, if you are a wholesaler (or installer) selling or installing a fire alarm panel wouldn't you feel safer knowing the same?

The demand for approved product is increasing. Installation companies that achieve BAFE SP203 accreditation for example are duty-bound to used compliant product wherever possible. Plus, as stories circulate of people being fined or in some cases being sent to prison for not taking fire safety seriously enough, so does the demand for traceable compliant product.

Approval provides a high degree of confidence in the performance of a product as it involves regular auditing to ensure compliance with the prevailing standards (which are subject to regular revision). This ongoing auditing process also helps to confirm that the product on the market is exactly the same as the product which was originally tested and approved.

If any one questions the compliance of your product, you can show them the LPCB certificate.



FCFP2/4/8 Dimensions:
A: 380mm B: 235mm C: 90mm

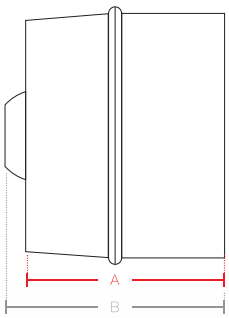
Technical Information

Mains supply voltage	230V AC + 50/60Hz
Internal power supply	27v DC
Auxiliary power supply	27v DC
Total output current limited to	1.5A @ 230v AC
Number of zone circuits	2 (FCFP2N) - 4 (FCFP4N) - 8 (FCFP8N)
Maximum number of detectors & manual call points per zone	20
Number of sounder circuits	4
Maximum bells @ 25 mA	32
Maximum sounders @ 20mA	40
Sounder outputs each fused at	200 mA
Enclosure (WxHxD)	380x235x96mm (flushing dimensions 364x222x75mm)
Weight (without batteries)	1.75kg (without batteries)

Firesafe Catalogue 06.11:Layout 1 17/6/11 13:18 Page 7

firesafe
fire safety equipment

Conventional Fire Alarm Sounders



FSASN Dimensions:
A: 77mm B: 85mm

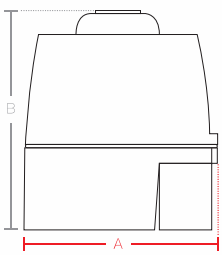
Sounders

FSASN

The FSASN sounder offers a cost effective and robust solution for your fire sounder needs. Supplied in red ABS as 4 tone dc, volume control on this is continuously variable with the option of a continuous override tone. This sounder also features a wide operating voltage making it perfect for various applications.

Technical Information

Output @ 1 metre 24Vdc	107dB
Current @ 24Vdc	40mA
Voltage Range	8 - 35Vdc
Operating Frequency	800Hz to 1000Hz
Number of Tones	4
Volume Control	- 30dB
IP Rating	IP65
Temperature Range	- 20°C to + 70°C
Weight (per unit packed)	200g



FSA3N Dimensions:
A: 93mm B: 101.6mm

FSA3N

Available in red, the FSA3N sounder is ideal for both the fire and security markets, with EN54 approved and anti-tamper versions optional. The FSA3N is complete with 32 tones plus a selectable override tone and supplied as standard with a deep IP65 rated base. The use of the industry standard grub screw allows the product to be locked in place providing compliancy with British and European standards.

Technical Information

Sound Level	Low	Med	High
Sound Output @ 1 metre (Tone 1)	86dB	101dB	106dB
Current Consumption @ 24Vdc	< 9mA	< 18mA	< 36mA
Voltage Range	15 - 35Vdc		
Number of Tones	32		
Operating Frequency	440Hz to 2900Hz		
IP Rating	IP65		
Temperature Range	- 20°C to + 70°C		
Weight (per unit packed)	250g		

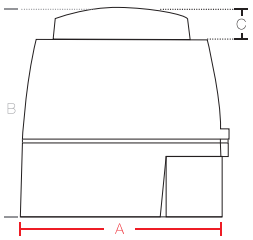
firesafe
fire safety equipment

Conventional Fire Alarm Sounders

Sounders

FSAVRRN

With its wide voltage range the AV is the perfect choice for both fire and security applications. Available as standard in red with red lens or other lens colour options available to order, the AV is ideal for Disability Discrimination Act compliancy due to its visual indication. Supplied with deep mounting base and is complete with 32 tones and a selectable override tone. White, amber variant also available.



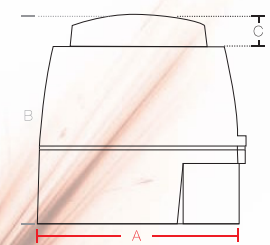
FSAVRRN Dimensions:
A: 93mm B: 106.9mm C: 16.30mm

Technical Information

Sound Level	Low	Med	High
Sound Output @ 1 metre (Tone 1)	88dB	103dB	109dB
Current Consumption @ 24Vdc	<11mA	<19mA	<37mA
Voltage Range	18 - 35Vdc		
Number of Tones	32		
Operating Frequency	440Hz to 2900Hz		
IP Rating	IP65		
Temperature Range	- 20°C to + 70°C		
Flash Rate	1Hz		
Weight (per unit packed)	258g		

FSAVWAN

With its wide voltage range the AV is the perfect choice for both fire and security applications. Available as standard in red with red lens or other lens colour options available to order, the AV is ideal for Disability Discrimination Act compliancy due to its visual indication. Supplied with deep mounting base and is complete with 32 tones and a selectable override tone. White, amber variant also available.



FSAVWAN Dimensions:
A: 93mm B: 106.9mm C: 16.30mm

Technical Information

Sound Level	Low	Med	High
Sound Output @ 1 metre (Tone 1)	88dB	103dB	109dB
Current Consumption @ 24Vdc	<11mA	<19mA	<37mA
Voltage Range	18 - 35Vdc		
Number of Tones	32		
Operating Frequency	440Hz to 2900Hz		
IP Rating	IP65		
Temperature Range	- 20°C to + 70°C		
Flash Rate	1Hz		
Weight (per unit packed)	258g		

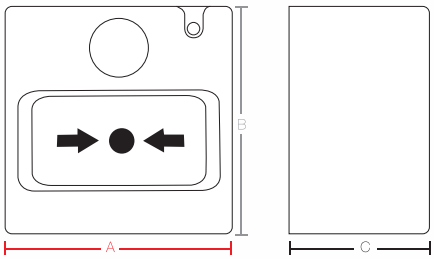
Conventional Fire Call Points

Call Points

FCPSR Surface Red Call Point

Product Features:

- Surface mounted fire alarm call point
- LED alarm indication
- Surface mount
- Fully resettable
- EN54 compliant

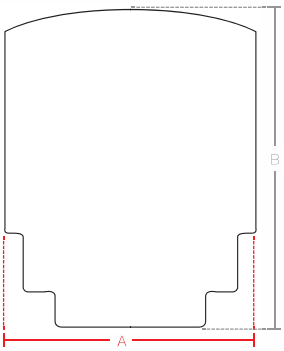


FCPSR Dimensions: A: 88mm B: 88mm C: 58mm

FCPHC Hinged Cover

Product Features:

- Polycarbonate clear
- Strong and durable
- Providing additional protection where necessary
- Quick and easily attached

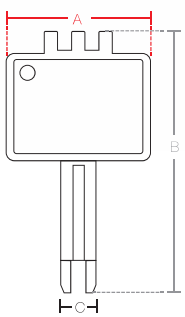


FCPHC Dimensions: A: 92mm B: 112mm

FCPSK Call Point Key Pack

Product Features:

- Supplied in packs of 5
- For tests and reset purposes



FCPSK Dimensions: A: 24mm B: 47mm C: 6mm

Series 65 Heat Class A1R	▲ Part nos
Standard detector	55000-122
Detector with flashing LED	55000-121
Detector with magnetic test switch & flashing LED	55000-120
Series 65 Heat Class BR	
Standard detector	55000-127
Detector with flashing LED	55000-126
Detector with magnetic test switch & flashing LED	55000-125
Series 65 Heat Class CR	
Standard detector	55000-132
Detector with flashing LED	55000-131
Detector with magnetic test switch & flashing LED	55000-130
Series 65 Heat Class CS	
Standard detector	55000-137
Detector with flashing LED	55000-136
Detector with magnetic test switch & flashing LED	55000-135

OPERATING PRINCIPLES

The detector has a moulded self-extinguishing white polycarbonate case. Nickel plated stainless steel wiper contacts connect the detector to the base. Inside the case a printed circuit board holds the signal processing electronics.

A pair of matched negative temperature co-efficient thermistors are mounted on the PCB in such a way that one thermistor is exposed to give good thermal contact with the surrounding air while the other thermistor is thermally insulated.

Under stable conditions both thermistors are in thermal equilibrium and have the same value of resistance. If air temperature increases rapidly the resistance of the exposed thermistor becomes less than that of the insulated thermistor. The ratio of the resistance of the thermistors is monitored electronically and an alarm is initiated if the ratio exceeds a factory preset level. This feature determines the 'rate of rise' response of the detector.

If air temperature increases slowly, no significant resistance difference develops between the thermistors, but at high temperatures a fixed value resistance connected in series with the insulated thermistor becomes significant.

When the sum of the resistance of the insulated thermistor and the fixed resistor compared to the resistance of the exposed thermistor reaches a preset value, an alarm is initiated. The value of the fixed resistor is selected to set the detector into alarm state at a specified fixed temperature.

The detector signals an alarm state by switching an alarm latch on, increasing the current drawn from the supply from about 50µA to a maximum of about 75mA. This fall in the impedance of the detector is recognised by the control panel as an alarm signal.

The alarm current also illuminates the detector integral LED. A remote indicator connected between the L1 IN terminal and the –R terminal will have a voltage equal to the supply voltage less 1 volt across it and so will illuminate.

To ensure correct operation of the detector the control panel must be arranged to supply a maximum of 33 volts DC and a minimum of 9 volts DC in normal operation. The supply may fall to 6 volts DC in alarm conditions if a supply current of at least 10mA is available at this voltage. To ensure effective illumination of the integral LED and any remote indicator, the supply to the detector should exceed 12 volts.

To restore the detector to quiescent condition, it is necessary to restore a normal temperature level and interrupt the electrical supply to the detector for a minimum of one second.

OPTIONS

1. Flashing LED: The integral LED flashes when the detector is in a quiescent state.
2. Magnetic test switch and Flashing LED: A magnetic test switch in the circuit of the detector can be magnetically activated from outside the case to initiate an alarm condition for test and commissioning purposes. A flashing LED, as outlined above, is also included.

page 9

RESPONSE TIME

European Standard EN54–5:2000 classifies heat detectors according to the alarm temperature and ambient operating temperature.

Each heat detector classification has a static response (changing to alarm at a preset temperature) and may also have a rate of rise response (changing to alarm at or above a preset increase of temperature). The heat detector classes available in Series 65 are A1R, BR, CR, CS.

The suffix R indicates that the detector has been tested and approved as a 'rate-of-rise' detector. The suffix 'S' indicates that the detector has been tested and approved as a 'static' detector.

Supply Voltage (V)	A1R Standard		A1R Flashing LED		A1R Flashing LED/ Magnetic test switch	
	Quiescent	Alarm	Quiescent	Alarm	Quiescent	Alarm
24	45µA	52mA	55µA	52mA	55µA	52mA
9	40µA	17mA	50µA	17mA	50µA	17mA

Table 1 Typical current against voltage characteristics for quiescent and alarm states

Class	Max application temperature °C	Max static response temperature °C	Part number		
			Standard	Flashing LED	Flashing LED/ Magnetic test switch
A1R	50	65	**55000-122**	**55000-121**	**55000-120**
BR	65	85	**55000-127**	**55000-126**	**55000-125**
CR	80	100	**55000-132**	**55000-131**	**55000-130**
CS	80	100	**55000-137**	**55000-136**	**55000-135**

Table 2 Series 65 Heat Detector temperatures and part numbers

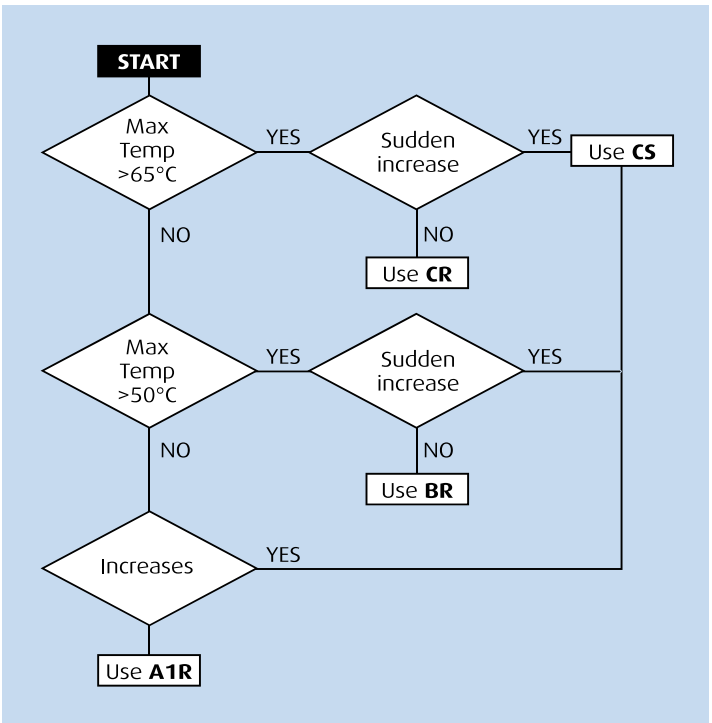


Fig. 3 Choosing a heat detector

Optical Smoke Detector	▲ Part nos
Standard detector	55000-317
Detector with flashing LED	55000-316
Detector with magnetic test switch & flashing LED	55000-315

OPERATING PRINCIPLES

The Series 65 Optical Smoke Detector has a moulded self-extinguishing white polycarbonate case with wind resistant smoke inlets. Nickel plated stainless steel wiper contacts connect the detector to the base. Inside the case a printed circuit board has the optical system mounted on one side and the signal processing electronics on the other. The sensing chamber is a black moulding configured as a labyrinth which prevents penetration of ambient light. The labyrinth has a fine gauze insect-resistant cover. The chamber houses an infrared light emitting diode (LED) and a photo-diode which has an integral visible-light filter as extra protection against ambient light.

Every three seconds the LED emits a burst of collimated light, modulated at 4kHz. In clear air, light from the LED does not fall directly on the diode because the LED is positioned at an obtuse angle to the diode (as shown in Fig 2).

When smoke enters the chamber, a fraction of the collimated light is scattered onto the photo-diode. If the resulting signal from the photo-diode is above a preset threshold, the LED emits two more bursts of light, this time at two-second intervals. If light is scattered onto the photo-diode by both these pulses – due to the presence of smoke – the detector signals an alarm state by switching the alarm latch on, increasing the current drawn from the supply from about 40µA to a maximum of 75mA. This fall in the impedance of the detector is recognised by the control panel as an alarm signal.

The alarm current also illuminates the detector integral LED. A remote indicator connected between the L1 IN terminal and the –R terminal will have a voltage equal to the supply voltage less 1 volt across it and so will illuminate.

To ensure correct operation of the detector the control panel must be arranged to supply a maximum of 33 volts DC and a minimum of 9 volts DC in normal operation. The supply may fall to 6 volts DC in alarm conditions if a supply current of at least 10mA is available at this voltage. To ensure effective illumination of the integral LED and any remote indicator, the supply to the detector should exceed 12 volts.

To restore the detector to quiescent condition, it is necessary to expel any smoke and interrupt the electrical supply to the detector for a minimum of one second.

OPTIONS

1. Flashing LED: The integral LED flashes when the detector is in a quiescent state.
2. Magnetic test switch and Flashing LED: A magnetic test switch in the circuit of the detector can be magnetically activated from outside the case to initiate an alarm condition for test and commissioning purposes. A flashing LED, as outlined above, is also included.

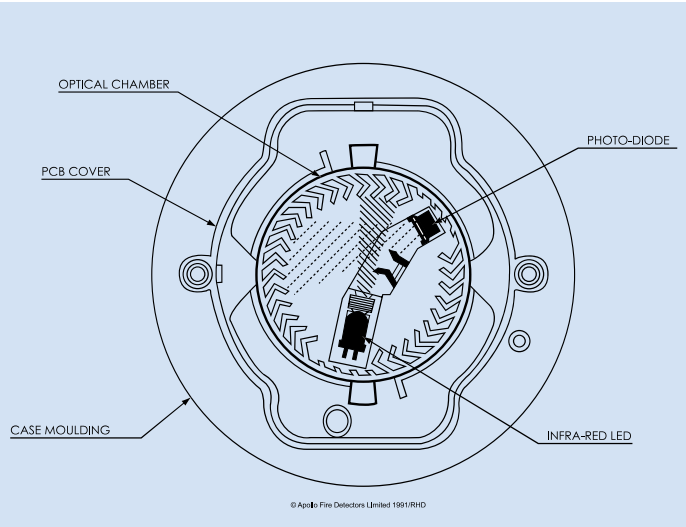


Fig.2 Top section, Series 65 Optical Smoke Detector

TECHNICAL DATA

Specifications are typical and given at 23°C and 50% relative humidity unless specified otherwise.

Detector Type:
Point type smoke detector for fire detection and alarm systems for buildings

Detection Principle:
Photo-electric detection of light scattered in a forward direction by smoke particles

Chamber Configuration:
Horizontal optical bench housing an infra-red emitter and sensor arranged radially to detect forward scattered light

Sensor:
Silicon PIN photo-diode

Emitter:
GaAs Infra-red light emitting diode

Sampling Frequency:
Once every 3 seconds

Confirmation Frequency:
Once every 2 seconds

Number of Consecutive Sensed Alarm Signals Needed To Trigger Detector Alarm:
3

Supply Wiring:
Two wire monitored supply, polarity insensitive

Terminal Functions:
L1 IN and L2: supply in connections (polarity insensitive).
L1 OUT and L2:
supply out connections (polarity insensitive).
–R:
remote indicator negative connection

Supply Voltage:
9 to 33V DC

Ripple Voltage:
2V peak to peak maximum at 0.1Hz to 100kHz

Quiescent Current:
30–50µA at 24V

Switch-on Surge Current:
115µA at 24V

Alarm Voltage:
6 to 28V

Normal Alarm Current:
61mA at 28V
52mA at 24V
18mA at 10V

Alarm Indicator:
Clear light emitting diode (LED) emitting red light

Design Alarm Load:
420Ω in series with 2V drop

Holding Voltage:
6V (min)

Holding Current:
10mA (min)

Minimum Voltage Required to Illuminate Indicator:
12V

Alarm Reset Voltage:
1V

Alarm Reset Time:
1 second

Remote Output Characteristics:
Remote is a current sink to the negative line limited to 17mA

Sensitivity:
Nominal alarm threshold of 0.15dB/m obscuration, measured in accordance with EN 54–7: 2000

Temperature Range:
–20° to +60°C
(no condensation or icing).

Humidity:
0% to 95% relative humidity (no condensation)

Wind Speed:
Insensitive to wind

Atmospheric Pressure:
Insensitive to atmospheric pressure

IP Rating:
23D in accordance with BS EN 60529

EMC, approvals and regulatory compliance:
Refer to Page 18 of this document

Dimensions: (dia. x height)

Detector:	100x42mm
Detector in Base:	100x50mm

Weights:

Detector:	99g
Detector in Base:	150g

Materials:
Detector housing: White polycarbonate rated V-0 in accordance with UL 94.
Terminals: Nickel plated stainless steel

CE
CE 0832

technical data

Mobile-phone-directed intelligent controller and reporter

DAViD

Flexible device with useful features

JABLOTRON

remote indicator units 24Vdc

The unit is used to give a remote indication of the status of a single or groups of fire detectos in alarm state utilising an LED with a wide area of illumination and high on/off contrast.

The units are compatible with the majority of conventional and addressable systems and can also be used for security and process control applications.

The standard version is a single gang flush mount unit, with or without 'Fire Detector Operated' text and also available with a deep back box for surface mounting.

- direct fit to a single gang deep back box
- circular flush mounted version available without text
- text is available in other languages
- custom legend available on request
- IP66 weatherproof version available

TECHNICAL

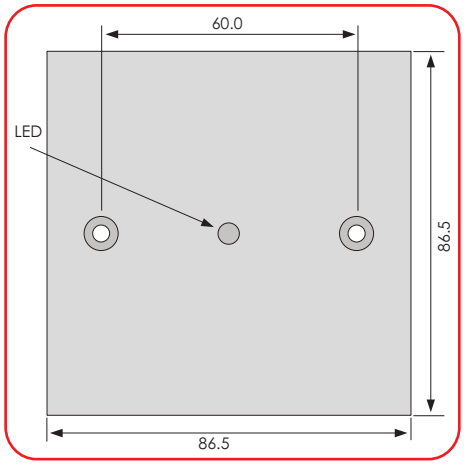
type	flush mount	surface mount	circular	weatherproof
voltage range (Vdc)		5 - 28		
nominal current consumption (mA)		24		
protection rating	IP24	IP24	IP24	IP66
boxed weight (kg)	0.04	0.10	0.12	0.48
colours available		white (ABS fire retardant plastic)		

ORDERING INFORMATION

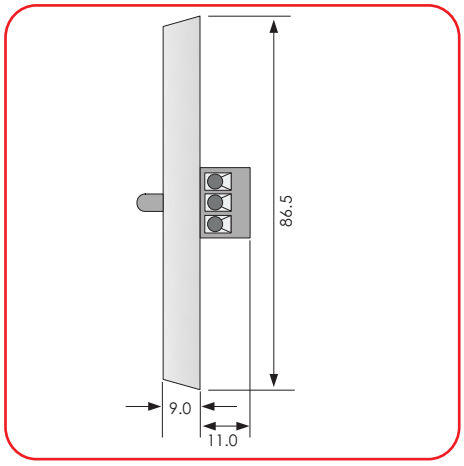
blank, single gang, flush	FRLN

DIMENSIONS, PRODUCT MOUNTING & CABLE ENTRY

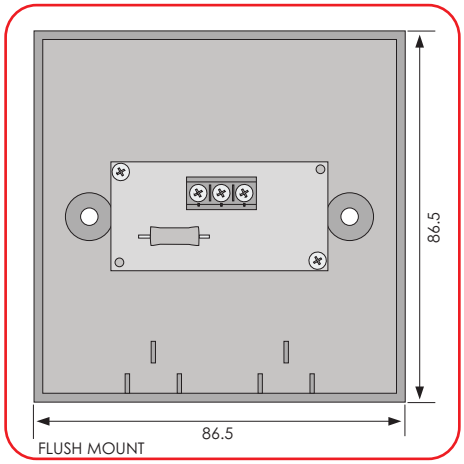
PLAN VIEW



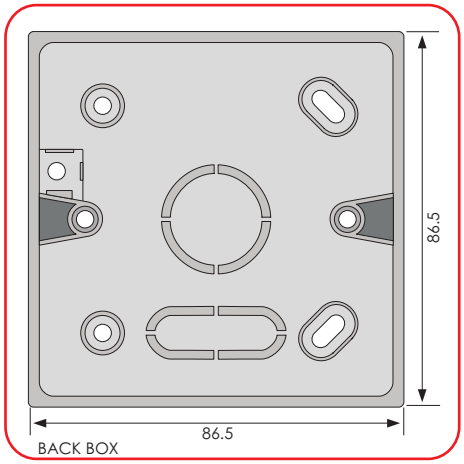
SIDE VIEW



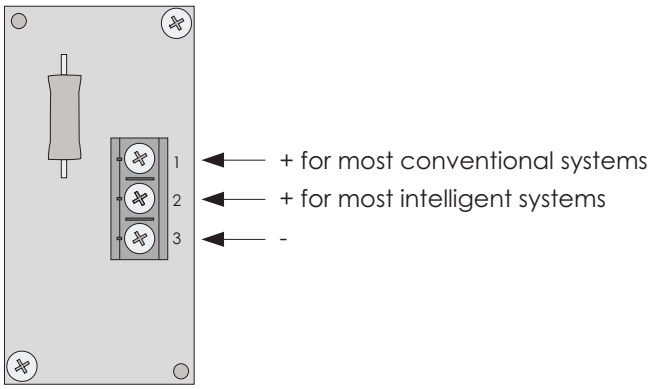
BASE VIEW



BASE VIEW



WIRING CONFIGURATION



SECTION 5 // SCHEDULE OF MANUFACTURERS

A&B
ELECTRICAL
SERVICES

SCHEDULE OF MANUFACTURERS

Dorman Smith
Tyco Electronics UK Ltd.
Freebournes Road
Witham
Essex
CM8 3AH

MK
The Arnold Centre
Paycocke Road
Basildon
Essex
SS14 3EA

Schneider Electric
First Floor
Market House
Church Street
Wilmslow
Cheshire
SK9 1AY

Newlec
Newey & Eyre
Eagle Court 2
Hatchford Brook
Hatchford Way, Sheldon
Birmingham
B26 3RZ
Tel: 0121 366 1000

Tamlite
The Sales Centre
Park Farm Industrial Estate
Redditch
Worcestershire
B98 0HU

Philips
www.philips.com

Thorn Lighting Ltd
Durhamgate
Spennymoor
Co Durham
DL16 6HL

Menvier
General UK Enquiries
Tel: 01302 303999
Fax: 01302 303333
info@cooperfire.com

Firesafe
8 Arkwright Court
Fylde Industrial Estate
Blackpool
Lancashire
FY4 5DR

ME Intercom
Purchased from:
http://www1.conrad-uk.com/scripts/wgate/zcop_uk/~flN0YXRlPTM2MjUyMTE5MDI=?~template=PCAT_AREA_S_BROWSE&glb_user_js=Y&shop=UK&p_searchstring=vd5230&s_haupt_kategorie=&zhmmh_area_kz=&p_init_ipc=X&p_page_to_display=DirektSearch&~cookies=1&adcampaign=fhseo&gclid=&scrwidth=1920

SECTION 6 // MAINTENANCE PROCEDURES

A&B ELECTRICAL SERVICES

MAINTENANCE PROCEDURES

A&B Electrical Services (UK) Ltd recommend that only a qualified electrician is suitable for any maintenance on the electrical installation.

LIST OF USEFUL NUMBERS

07976 751 743 : T. Lambert
07753 806 878 : S. Fabby

SECTION 7 // INSPECTION OF COMPLETION CERTIFICATES

A&B ELECTRICAL SERVICES

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **ICN2/0092325**

ELECTRICAL INSTALLATION CERTIFICATE

Issued in accordance with *British Standard 7671 – Requirements for Electrical Installations* by an Approved Contractor or Conforming Body enrolled with NICEIC, Warwick House, Houghton Hall Park, Houghton Regis, Dunstable, LU5 5ZX

Original (To the person ordering the work)

DETAILS OF THE CLIENT

Client / Address: CONTRACT SERVICES LOMBARDIAN HOUSE MANCHESTER

DETAILS OF THE INSTALLATION

Address: 79 THOMAS STREET MANCHESTER

Extent of the installation covered by this certificate: FULL INSTALLATION

The installation is: New ✓ / An addition / An alteration

DESIGN

I/We, being the person(s) responsible for the design of the electrical installation (as indicated by my/our signature(s) below), particulars of which are described above, having exercised reasonable skill and care when carrying out the design, hereby CERTIFY that the design work for which I/we have been responsible is, to the best of my/our knowledge and belief, in accordance with BS 7671 amended to (date) except for the departures, if any, detailed as follows:

Details of departures from BS 7671, as amended (Regulations 120.3, 120.4):

The extent of liability of the signatory/signatories is limited to the work described above as the subject of this certificate.
For the **DESIGN** of the installation: **(*Where there is divided responsibility for the design*)

Signature		Date		Name (CAPITALS)	Designer 1
Signature		Date		Name (CAPITALS) **	Designer 2

CONSTRUCTION

I/We, being the person(s) responsible for the construction of the electrical installation (as indicated by my/our signature below), particulars of which are described above, having exercised reasonable skill and care when carrying out the construction, hereby CERTIFY that the construction work for which I/we have been responsible is, to the best of my/our knowledge and belief, in accordance with BS 7671 amended to (date) except for the the departures, if any, detailed as follows:

Details of departures from BS 7671, as amended (Regulations 120.3, 120.4):

The extent of liability of the signatory is limited to the work described above as the subject of this certificate.
For the **CONSTRUCTION** of the installation:

Signature	G Roughley	Date	8.12.11	Name (CAPITALS)	G ROUGHLEY Constructor

INSPECTION AND TESTING

I/We, being the person(s) responsible for the inspection and testing of the electrical installation (as indicated by my/our signatures below), particulars of which are described above, having exercised reasonable skill and care when carrying out the inspection and testing, hereby CERTIFY that the work for which I/we have been responsible is to the best of my/our knowledge and belief in accordance with BS 7671, amended to NOV 11 (date) except for the departures, if any, detailed as follows:

Details of departures from BS 7671, as amended (Regulations 120.3, 120.4): NONE

The extent of liability of the signatory/signatories is limited to the work described above as the subject of this certificate.
For the **INSPECTION AND TESTING** of the installation:

Signature	G Roughley	Date	8.12.11	Reviewed by Signature		Date	DEC 11
Name (CAPITALS)	G ROUGHLEY	Inspector		Name (CAPITALS)	T. LAMBERT		Qualified Supervisor †

DESIGN, CONSTRUCTION, INSPECTION AND TESTING *

* This box to be completed only where the design, construction, inspection and testing have been the responsibility of one person.

I, being the person responsible for the design, construction, inspection and testing of the electrical installation (as indicated by my signature below), particulars of which are described above, having exercised reasonable skill and care when carrying out the design, construction, inspection and testing, hereby CERTIFY that the said work for which I have been responsible is to the best of my knowledge and belief in accordance with BS 7671, amended to (date) except for the departures, if any, detailed as follows:

Details of departures from BS 7671, as amended (Regulations 120.3, 120.4):

The extent of liability of the signatory is limited to the work described above as the subject of this certificate.
For the **DESIGN**, the **CONSTRUCTION** and the **INSPECTION AND TESTING** of the installation.

Signature		Date		Reviewed by Signature		Date	
Name (CAPITALS)				Name (CAPITALS)			Qualified Supervisor ††

† *Where the inspection and testing have been carried out by an Approved Contractor, the inspection and testing results are to be reviewed by the registered Qualified Supervisor.*

†† *Where the design, the construction, and the inspection and testing have been the responsibility of one person, the inspection and testing results are to be reviewed by the registered Qualified Supervisor.*

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Please see the 'Notes for Recipients' on the reverse of this page.

NICEIC APPROVED CONTRACTOR

This continuation sheet is not valid if the serial number is not the same as the corresponding certificate or report

ICN/~~IPN~~* 0092325
* Delete as appropriate

Original (To the person ordering the work)

SCHEDULE OF CIRCUIT DETAILS FOR THE INSTALLATION - CONTINUATION

TO BE COMPLETED IN EVERY CASE	TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*
Location of distribution board: 1ST FLOOR HALF LANDING AT HIGH LEVEL	Supply to distribution board is from: 63A SIW FUSE; No of phases: 1; Nominal voltage: 230 V
Distribution board designation: DBLL	Overcurrent protective device for the distribution circuit: Associated RCD (if any): BS(EN) N/A; Type: BS(EN) 60947-3; Rating: 100 A; RCD No of poles: /; $I_{\Delta n}$ /mA

CIRCUIT DETAILS

Circuit number and phase	Circuit designation	Type of wiring (see code below)	Reference method ↕	Number of points served	Circuit conductors: csa Live (mm²)	Circuit conductors: csa cpc (mm²)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices: BS (EN)	Type No	Rating (A)	Short-circuit capacity (kA)	RCD: Operating current $I_{\Delta n}$ (mA)	Maximum Z_s permitted by BS 7671 (Ω)
1	OVERDOOR HEATER AND TWIN SOCKET ON LANDING	A	B	2	2.5	1.5	0.4	61009	B	20	4.5	30	1.84
2	BOILER	A	B	1	2.5	1.5	0.4	60898	B	20	6	/	1.84
3	FIRE ALARM	A	B	1	1.5	1.0	0.4	60898	B	10	10	/	3.68
4	GAS SOLENOID VALVE	A	B	2	1.5	1.0	0.4	60898	B	10	6	/	3.68
5	DOOR ENTRY SYSTEM	A	B	4	1.5	1.0	0.4	60898	B	10	6	/	3.68
6	STAIRWAY LIGHTS	A	B	10	1.5	1.0	0.4	60898	B	10	6	/	3.68
7	SPARE												
8	SPARE												

↕ *See Table 4A2 of Appendix 4 of BS 7671*

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
PVC/PVC cables	PVC cables in metallic conduit	PVC cables in non-metallic conduit	PVC cables in metallic trunking	PVC cables in non-metallic trunking	PVC/SWA cables	XLPE/SWA cables	Mineral-insulated cables	

* *In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided on continuation schedules.*

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See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This continuation sheet is not valid if the serial number is not the same as the corresponding certificate or report

ICN/~~IPN~~ * 0092325
* Delete as appropriate

SCHEDULE OF TEST RESULTS FOR THE INSTALLATION - CONTINUATION

Original (To the person ordering the work)

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

Confirmation of supply polarity: ✓

* See note below

Z_s * 0·20 Ω

I_{pf} * 2·2 kA

Operating times of associated RCD (if any): At $I_{\Delta n}$ / ms; At $5I_{\Delta n}$ (if applicable) / ms

Test instruments (serial numbers) used:

Earth fault loop impedance	3320490	RCD	3320490
Insulation resistance	3320490	Other	
Continuity	3320490	Other	

TEST RESULTS

Circuit number and phase	Circuit impedances (Ω)					Insulation resistance † Record lower or lowest value				Polarity	Maximum measured earth fault loop impedance, Z_s * See note below	RCD operating times	
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line †	Line/Neutral †	Line/Earth †	Neutral/Earth			at $I_{\Delta n}$	at $5I_{\Delta n}$ (if applicable)
	r_1 (Line)	r_n (Neutral)	r_2 (cpc)	$R_1 + R_2$	R_2	(MΩ)	(MΩ)	(MΩ)	(MΩ)	(✓)	(Ω)	(ms)	(ms)
1				0·11			>200	>200	>200	✓	0·31	19·1	18·6
2				0·18			>200	>200	>200	✓	0·38		
3				0·14			>200	>200	>200	✓	0·34		
4				0·17			>200	>200	>200	✓	0·37		
5				0·31			>200	>200	>200	✓	0·51		
6				0·66			>200	>200	>200	✓	0·87		
7													
8													
9													

* *Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature: G Rod

Position: ELECTRICIAN

Name: (CAPITALS) G ROWNTREE

Date of testing: 6.12.11

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See previous page for Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **ICN2/ 0092325**

Original (To the person ordering the work)

PARTICULARS OF THE ORGANISATION(S) RESPONSIBLE FOR THE ELECTRICAL INSTALLATION

DESIGN (1) Organisation †

Address: Postcode

NICEIC Enrolment No (where appropriate)

Branch number: (if applicable)

DESIGN (2) Organisation †

Address: Postcode

NICEIC Enrolment No (where appropriate)

Branch number: (if applicable)

CONSTRUCTION † Organisation ARB ELECTRICAL SERVICES (UK) LTD.

Address: UNIT E3 CASSIDY COURT
KANSAS AVENUE
SALFORD
Postcode M50 2QW

NICEIC Enrolment No (Essential information) 0 2 9 9 8 2

Branch number: (if applicable) 0 0 0

INSPECTION AND TESTING Organisation †

Address: Postcode

NICEIC Enrolment No (where appropriate)

Branch number: (if applicable)

SUPPLY CHARACTERISTICS AND EARTHING ARRANGEMENTS

Tick boxes and enter details, as appropriate

System Type(s)

TN-S	✓
TN-C-S	
TN-C	
TT	
IT	

Number and Type of Live Conductors

a.c.	✓	d.c.	
1-phase (2 wire)		1-phase (3 wire)	
2 pole		2-phase (3 wire)	
3-pole		3-phase (3 wire)	
3-phase (4 wire)	✓	other	
Other	Please state		

Nature of Supply Parameters

Nominal voltage(s): $U^{(1)}$	400 V	$U_o^{(1)}$	230 V
Nominal frequency, $f^{(1)}$	50 Hz		
Prospective fault current, $I_{pf}^{(2)(3)}$	1.84 kA		
External earth fault loop impedance, $Z_e^{(2)(3)}$	0.1 Ω		
Number of supplies	1		

Notes:
(1) by enquiry
(2) by enquiry or by measurement
(3) where more than one supply, record the higher or highest values

Characteristics of Primary Supply Overcurrent Protective Device(s)

BS(EN)	1361
Type	II b
Rated current	100 A
Short-circuit capacity	80 kA

PARTICULARS OF INSTALLATION AT THE ORIGIN

Tick boxes and enter details, as appropriate

Means of Earthing

Distributor's facility:	✓
Installation earth electrode:	

Details of Installation Earth Electrode (where applicable)

Type: (eg rod(s), tape etc)

Location:

Electrode resistance, R_A: (Ω)

Method of measurement:

Main Switch or Circuit-Breaker

* (applicable only where an RCD is suitable and is used as a main circuit-breaker)

Type: BS(EN)	-	Voltage rating	250 V
No of Poles	2	Rated current, I_n	100 A
Supply conductors: material	COPPER	RCD operating current, $I_{\Delta n}$*	N/A mA
Supply conductors: csa	25 mm²	RCD operating time (at $I_{\Delta n}$)*	N/A ms

Maximum Demand (Load): 100 kVA / Amps *Delete as appropriate

Protective measures against electric shock: ADS

Earthing and Protective Bonding Conductors

Earthing conductor		Main protective bonding conductors		Bonding of extraneous-conductive-parts (✓)	
Conductor material	COPPER	Conductor material	COPPER	Water service	✓
Conductor csa	16 mm²	Conductor csa	10 mm²	Gas service	✓
Continuity check	✓ (✓)	Continuity check	✓ (✓)	Oil service	
				Structural steel	
				Lightning protection	
				Other incoming service(s)	

COMMENTS ON EXISTING INSTALLATION

In the case of an alteration or additions see Section 633 NONE

Note: Enter 'NONE' or, where appropriate, the page number(s) of additional page(s) of comments on the existing installation.

NEXT INSPECTION

§ *Enter interval in terms of years, months or weeks, as appropriate*

I/We, the designer(s), RECOMMEND that this installation is further inspected and tested after an interval of not more than § FIVE YEARS

† *Where the Approved Contractor responsible for the construction of the electrical installation has also been responsible for the design **and** the inspection and testing of that installation, the 'Particulars of the Organisation responsible for the Electrical Installation' may be recorded only in the section entitled 'CONSTRUCTION'.*

❖ *Where a number of sources are available to supply the installation, and where the data given for the primary source may differ from other sources, a separate sheet must be provided which identifies the relevant information relating to each additional source.*

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Please see the 'Notes for Recipients' on the reverse of this page.

NICEIC APPROVED CONTRACTOR

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Original (To the person ordering the work)

SCHEDULE OF ITEMS INSPECTED

† *See note below*

PROTECTIVE MEASURES AGAINST ELECTRIC SHOCK

Basic and fault protection

Extra low voltage

N/A SELV — N/A PELV

Double or reinforced insulation

Double or Reinforced Insulation

Basic protection

✓ Insulation of live parts — ✓ Barriers or enclosures

N/A Obstacles ** — N/A Placing out of reach **

Fault protection

Automatic disconnection of supply

✓ Presence of earthing conductor

✓ Presence of circuit protective conductors

✓ Presence of main protective bonding conductors

✓ Presence of earthing arrangements for combined protective and functional purposes

N/A Presence of adequate arrangements for alternative source(s), where applicable

N/A FELV

N/A Choice and setting of protective and monitoring devices (for fault protection and/or overcurrent protection)

Non-conducting location **

N/A Absence of protective conductors

Earth-free equipotential bonding **

N/A Presence of earth-free equipotential bonding

Electrical separation

✓ For **one** item of current using equipment

N/A For **more** than one item of current using equipment **

Additional protection

✓ Presence of residual current device(s)

✓ Presence of supplementary bonding conductors

*** For use in controlled supervised/conditions only***

Prevention of mutual detrimental influence

N/A Proximity of non-electrical services and other influences

N/A Segregation of Band I and Band II circuits or Band II insulation used

✓ Segregation of Safety Circuits

Identification

✓ Presence of diagrams, instructions, circuit charts and similar information

✓ Presence of danger notices and other warning notices

✓ Labelling of protective devices, switches and terminals

✓ Identification of conductors

Cables and Conductors

✓ Selection of conductors for current carrying capacity and voltage drop

✓ Erection methods

✓ Routing of cables in prescribed zones

N/A Cables incorporating earthed armour or sheath or run in an earthed wiring system, or otherwise protected against nails, screws and the like

✓ Additional protection by 30mA RCD for cables concealed in walls (where required, in premises not under the supervision of skilled or instructed persons)

✓ Connection of conductors

N/A Presence of fire barriers, suitable seals and protection against thermal effects

General

✓ Presence and correct location of appropriate devices for isolation and switching

✓ Adequacy of access to switchgear and other equipment

N/A Particular protective measures for special installations and locations

✓ Connection of single-pole devices for protection or switching in line conductors only

✓ Correct connection of accessories and equipment

N/A Presence of undervoltage protective devices

N/A Selection of equipment and protective measures appropriate to external influences

✓ Selection of appropriate functional switching devices

SCHEDULE OF ITEMS TESTED

† *See note below*

External earth fault loop impedance, Z_e

N/A Installation earth electrode resistance, R_A

✓ Continuity of protective conductors

✓ Continuity of ring final circuit conductors

✓ Insulation resistance between live conductors

✓ Insulation resistance between live conductors and Earth

✓ Protection by separation of circuits

✓ Basic protection by barrier or enclosure provided during erection

N/A Insulation of non-conducting floors or walls

✓ Polarity

✓ Earth fault loop impedance, Z_s

✓ Verification of phase sequence

✓ Operation of residual current devices

✓ Functional testing of assemblies

✓ Verification of voltage drop

SCHEDULE OF ADDITIONAL RECORDS* (See attached schedule)

Page No(s)

Note: Additional page(s) must be identified by the Electrical Installation Certificate serial number and page number(s).

† ***All boxes must be completed.*** *'✓' indicates that an inspection or a test was carried out and that the result was* ***satisfactory.*** *'N/A' indicates that an inspection or test was* ***not applicable*** *to the particular installation.*

* *Where the electrical work to which this certificate relates includes the installation of a fire alarm system and/or an emergency lighting system (or a part of such systems), this electrical safety certificate should be accompanied by the particular certificate(s) for the system(s).*

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NICEIC APPROVED CONTRACTOR

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Original (To the person ordering the work)

SCHEDULE OF CIRCUIT DETAILS FOR THE INSTALLATION

TO BE COMPLETED IN EVERY CASE	TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*
Location of distribution board: BASEMENT ELECTRICAL CUPBOARD	Supply to distribution board is from: 100A S/W FUSE; No of phases: 1; Nominal voltage: 230 V
Distribution board designation: DBTG	Overcurrent protective device for the distribution circuit: Associated RCD (if any): BS(EN) N/A; Type: BS(EN) 60947-3; Rating: 100 A; RCD No of poles: /; $I_{\Delta n}$: / mA

CIRCUIT DETAILS

Circuit number and phase	Circuit designation	Type of wiring (see code below)	Reference method †	Number of points served	Circuit conductors: csa Live (mm²)	Circuit conductors: csa cpc (mm²)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices: BS (EN)	Type No	Rating (A)	Short-circuit capacity (kA)	RCD: Operating current $I_{\Delta n}$ (mA)	Maximum Z_s permitted by BS 7671 (Ω)
1	GROUND FLOOR WINDOW WALL SOCKETS	E	B	7	2.5	1.5	0.4	61009	B	32	4.5	30	1.15
2	OPPOSITE WALL SOCKETS GROUND FLOOR	A	B	5	2.5	1.5	0.4	61009	B	32	4.5	30	1.15
3	KITCHEN SOCKETS	C	A	4	2.5	1.5	0.4	61009	B	32	4.5	30	1.15
4	BASEMENT SOCKETS	C	A	10	2.5	1.5	0.4	61009	B	32	4.5	30	1.15
5	SPUR IN KITCHEN CUPBOARD	C	A	1	2.5	1.5	0.4	60898	B	20	6	/	1.84
6	WATER HEATER AND HAND DRYER SPURS	C	A	2	2.5	1.5	0.4	60898	B	20	6	/	1.84
7	PUMP	C	A	1	2.5	1.5	0.4	60898	B	20	6	/	1.84
8	PUMP	C	A	1	2.5	1.5	0.4	60898	B	20	6	/	1.84
9	PUMP	C	A	1	2.5	1.5	0.4	60898	B	20	6	/	1.84
10	ALARM SPUR	A	A	1	1.5	1.0	0.4	60898	B	~~20~~ 10	6	/	3.68
11	GROUND FLOOR LIGHTS	A	A	11	1.5	1.0	0.4	60898	B	10	6	/	3.68
12	GROUND FLOOR LIGHTS	A	A	9	1.5	1.0	0.4	60898	B	10	6	/	3.68
13	BASEMENT STAIRS, W.C.'S, CORRIDOR LIGHTS	A	A	18	1.5	1.0	0.4	60898	B	10	6	/	3.68
14	BASEMENT ROOMS LTS.	A	A	9	1.5	1.0	0.4	60898	B	10	6	/	3.68

† *See Table 4A2 of Appendix 4 of BS 7671: 2008*

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
PVC/PVC cables	PVC cables in metallic conduit	PVC cables in non-metallic conduit	PVC cables in metallic trunking	PVC cables in non-metallic trunking	PVC/SWA cables	XLPE/SWA cables	Mineral-insulated cables	

* *In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided on continuation schedules.*

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See next page for Schedule of Test Results

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Original (To the person ordering the work)

SCHEDULE OF TEST RESULTS FOR THE INSTALLATION

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

Confirmation of supply polarity: ✓

☆ See note below

Z_s ☆ 0·14 Ω

I_{pf} ☆ 1·9 kA

Operating times of associated RCD (if any): At $I_{\Delta n}$ / ms; At $5I_{\Delta n}$ (if applicable) / ms

Test instruments (serial numbers) used:

Earth fault loop impedance	3320490	RCD	3320490
Insulation resistance	3320490	Other	
Continuity	3320490	Other	

TEST RESULTS

Circuit number and phase	Circuit impedances (Ω) Ring final circuits only (measured end to end) r_1 (Line)	r_n (Neutral)	r_2 (cpc)	All circuits (At least one column to be completed) $R_1 + R_2$	R_2	Insulation resistance † Record lower or lowest value Line/Line † (MΩ)	Line/Neutral † (MΩ)	Line/Earth † (MΩ)	Neutral/Earth (MΩ)	Polarity (✓)	Maximum measured earth fault loop impedance, Z_s ☆ See note below (Ω)	RCD operating times at $I_{\Delta n}$ (ms)	at $5I_{\Delta n}$ (if applicable) (ms)
1	0·25	0·24	0·57	0·15			>200	>200	>200	✓	0·29	24·2	17·1
2	0·31	0·31	0·59	0·17			>200	>200	>200	✓	0·31	26·8	18·9
3	0·23	0·23	0·61	0·11			>200	>200	>200	✓	0·25	26·8	18·9
4	0·25	0·25	0·55	0·46			>200	>200	>200	✓	0·60	2·6·1	18·6
5				0·06			>200	>200	>200	✓	0·20		
6				0·10			>200	>200	>200	✓	0·24		
7				0·11			>200	>200	>200	✓	0·25		
8				0·11			>200	>200	>200	✓	0·25		
9				0·12			>200	>200	>200	✓	0·25		
10				0·15			>200	>200	>200	✓	0·29		
11				0·58			>200	>200	>200	✓	0·72		
12				0·54			>200	>200	>200	✓	0·68		
13				0·43			>200	>200	>200	✓	0·57		
14				0·25			>200	>200	>200	✓	0·40		

* *Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature: GRod Position: ELECTRICIAN

Name: (CAPITALS) G ROWLANDS Date of testing: 6.12.11

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See previous page for Circuit Details

NICEIC APPROVED CONTRACTOR

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ICN/~~IPN~~* 0092325
* Delete as appropriate

Original (To the person ordering the work)

SCHEDULE OF CIRCUIT DETAILS FOR THE INSTALLATION - CONTINUATION

TO BE COMPLETED IN EVERY CASE	TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*
Location of distribution board: 1ST FLOOR OFFICE HIGH LEVEL	Supply to distribution board is from: 100A S/W FUSE; No of phases: 1; Nominal voltage: 230 V
Distribution board designation: DBT1	Overcurrent protective device for the distribution circuit: Type: BS(EN) 60947-3; Rating: 100 A; Associated RCD (if any): BS(EN) N/A; RCD No of poles: /; $I_{\Delta n}$: / mA

CIRCUIT DETAILS

Circuit number and phase	Circuit designation	Type of wiring (see code below)	Reference method †	Number of points served	Circuit conductors: csa Live (mm²)	Circuit conductors: csa cpc (mm²)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices: BS (EN)	Type No	Rating (A)	Short-circuit capacity (kA)	RCD: Operating current, $I_{\Delta n}$ (mA)	Maximum Z_s permitted by BS 7671 (Ω)
1	CARPENTERS LANE AND TIB STREET TRUNKING SOCKETS	E	B	13	2.5	1.5	0.4	61009	B	32	4.5	30	1.15
2	TIB STREET AND THOMAS STREET TRUNKING SOCKETS	E	B	10	2.5	1.5	0.4	61009	B	32	4.5	30	1.15
3	SINGLE SOCKET	C	A	1	2.5	1.5	0.4	61009	C	20	10	30	0.92
4	HAND DRYER SPURS	C	A	2	2.5	1.5	0.4	60898	B	20	6	/	1.84
5	WATER HEATER	C	A	1	2.5	1.5	0.4	60898	B	20	6	/	1.84
6	ALARM SPUR	A	A	1	1.5	1.0	0.4	60898	B	10	6	/	3.68
7	LIGHTS ROWS 3&4	A	A	10	1.5	1.0	0.4	60898	B	10	6	/	3.68
8	LIGHTS ROWS 1&2 AND TOILET AREAS	A	A	14	1.5	1.0	0.4	60898	B	10	6	/	3.68
9													
10													
11													
12													

† *See Table 4A2 of Appendix 4 of BS 7671*

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
PVC/PVC cables	PVC cables in metallic conduit	PVC cables in non-metallic conduit	PVC cables in metallic trunking	PVC cables in non-metallic trunking	PVC/SWA cables	XLPE/SWA cables	Mineral-insulated cables	

* *In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided on continuation schedules.*

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See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

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* Delete as appropriate

Original (To the person ordering the work)

SCHEDULE OF TEST RESULTS FOR THE INSTALLATION - CONTINUATION

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

Confirmation of supply polarity: ✓ *☆ See note below*

Z_s ☆ 0·19 Ω

I_{pf} ☆ 1·5 kA

Operating times of associated RCD (if any): At $I_{\Delta n}$ / ms; At $5I_{\Delta n}$ (if applicable) / ms

Test instruments (serial numbers) used:

Earth fault loop impedance	3320490	RCD	3320490
Insulation resistance	3320490	Other	
Continuity	3320490	Other	

TEST RESULTS

Circuit number and phase	Circuit impedances (Ω)					Insulation resistance † *Record lower or lowest value*				Polarity	Maximum measured earth fault loop impedance, Z_s ☆ *See note below*	RCD operating times	
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line †	Line/Neutral †	Line/Earth †	Neutral/Earth			at $I_{\Delta n}$	at $5I_{\Delta n}$ (if applicable)
	r_1 (Line)	r_n (Neutral)	r_2 (cpc)	$R_1 + R_2$	R_2	(MΩ)	(MΩ)	(MΩ)	(MΩ)	(✓)	(Ω)	(ms)	(ms)
1	0·27	0·27	0·55	0·34			>200	>200	>200	✓	0·53	18·6	18·6
2	0·23	0·24	0·60	0·19			>200	>200	>200	✓	0·38	18·6	18·6
3				0·14			>200	>200	>200	✓	0·33	18·9	18·6
4				0·19			>200	>200	>200	✓	0·37		
5				0·21			>200	>200	>200	✓	0·40		
6				0·02			>200	>200	>200	✓	0·21		
7				0·32			>200	>200	>200	✓	0·52		
8				0·22			>200	>200	>200	✓	0·41		
9													
10													
11													
12													

* *Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature: G Ryf Position: ELECTRICIAN

Name: (CAPITALS) G ROWLINSON Date of testing: 6.12.11

Page 7 of 11

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See previous page for Circuit Details

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ICN/~~IPN~~* 0092325
* Delete as appropriate

Original (To the person ordering the work)

SCHEDULE OF CIRCUIT DETAILS FOR THE INSTALLATION - CONTINUATION

TO BE COMPLETED IN EVERY CASE	TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*
Location of distribution board: HIGH LEVEL ON SIDE OF W.C. WALL 2ND FLOOR	Supply to distribution board is from: SW FUSE 100A; No of phases: 1; Nominal voltage: 230 V
Distribution board designation: DBT2	Overcurrent protective device for the distribution circuit: Type: BS(EN) 60947-3; Rating: 100 A; RCD No of poles: /; Associated RCD (if any): BS(EN) N/A; $I_{\Delta n}$: / mA

CIRCUIT DETAILS

Circuit number and phase	Circuit designation	Type of wiring (see code below)	Reference method ↑	Number of points served	Circuit conductors: csa Live (mm²)	Circuit conductors: csa cpc (mm²)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices: BS (EN)	Type No	Rating (A)	Short-circuit capacity (kA)	RCD: Operating current, $I_{\Delta n}$ (mA)	Maximum Z_s permitted by BS 7671 (Ω)
1	THOMAS STREET & TIB STREET SOCKETS	E	B	12	2.5	1.5	0.4	61009	B	32	45	30	1.15
2	CARPENTERS LANE AND ALL OTHER SOCKETS	E	B	10	2.5	1.5	0.4	61009	B	32	45	30	1.15
3	HAND DRYER SPURS	C	A	2	2.5	1.5	0.4	60898	B	32	6	/	1.15
4	WATER HEATER	A	A	1	2.5	1.5	0.4	60898	B	20	6	/	1.84
5	ALARM SPUR	A	A	1	1.5	1.0	0.4	60898	B	10	6	/	3.68
6	ROWS 1 & 2 AND W.C. LIGHTS	A	A	12	1.5	1.0	0.4	60898	B	10	6	/	3.68
7	ROWS 3 & 4 LIGHTS	A	A	10	1.5	1.0	0.4	60898	B	10	6	/	3.68
8	SPARE												
9	SPARE												
10	SPARE												
11	SPARE												
12	SPARE												

↑ *See Table 4A2 of Appendix 4 of BS 7671*

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
PVC/PVC cables	PVC cables in metallic conduit	PVC cables in non-metallic conduit	PVC cables in metallic trunking	PVC cables in non-metallic trunking	PVC/SWA cables	XLPE/SWA cables	Mineral-insulated cables	

* *In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided on continuation schedules.*

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NICEIC APPROVED CONTRACTOR

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ICN/~~IPN~~ * 0092325
* Delete as appropriate

Original (To the person ordering the work)

SCHEDULE OF TEST RESULTS FOR THE INSTALLATION - CONTINUATION

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

Confirmation of supply polarity: ✓

* See note below

Z_s * 0·18 Ω — Operating times of associated RCD (if any): At $I_{\Delta n}$ / ms; At $5I_{\Delta n}$ (if applicable) / ms

I_{pf} * 1·3 kA

Test instruments (serial numbers) used:

Earth fault loop impedance	3320490	RCD	3320490
Insulation resistance	3320490	Other	
Continuity	3320490	Other	

TEST RESULTS

Circuit number and phase	Circuit impedances (Ω)					Insulation resistance † Record lower or lowest value				Polarity	Maximum measured earth fault loop impedance, Z_s * See note below	RCD operating times	
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line †	Line/Neutral †	Line/Earth †	Neutral/Earth			at $I_{\Delta n}$	at $5I_{\Delta n}$ (if applicable)
	r_1 (Line)	r_n (Neutral)	r_2 (cpc)	$R_1 + R_2$	R_2	(MΩ)	(MΩ)	(MΩ)	(MΩ)	(✓)	(Ω)	(ms)	(ms)
1	0·30	0·30	0·58	0·35			>200	>200	>200	✓	0·54	18·6	18·2
2	0·24	0·25	0·63	0·25			>200	>200	>200	✓	0·43	18·6	18·6
3	0·26	0·26	0·57	0·09			>200	>200	>200	✓	0·27		
4				0·06			>200	>200	>200	✓	0·24		
5				0·01			>200	>200	>200	✓	0·19		
6				0·46			>200	>200	>200	✓	0·64		
7				0·65			>200	>200	>200	✓	0·80		
8							~~>200~~	~~>200~~	~~>200~~	✓			
9													
10													
11													
12													

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature: G Rogg — Position: ELECTRICIAN

Name: (CAPITALS) G ROUGHLEY — Date of testing: 6.12.11

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See previous page for Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered and unless accompanied by Forms 2, 3 and 4

ECN2 FORM 1 1048877

EMERGENCY LIGHTING COMPLETION CERTIFICATE

For new installations and verification of existing installations

Issued by an Approved Contractor enrolled with NICEIC, Warwick House, Houghton Hall Park, Houghton Regis, Dunstable LU5 5ZX.

Original [To the person ordering the work]

A1 DETAILS OF THE CLIENT

Client/ Address: CONTRACT SERVICES
LOMBARDIAN HOUSE
CADISHEAD MANCHESTER Postcode

PURPOSE OF CERTIFICATE

Verification of existing installation

The installation is

New ✓

An addition

An alteration

B1 DETAILS OF THE EMERGENCY LIGHTING INSTALLATION

Address: 79 THOMAS STREET M,CR Postcode M4

Extent of the installation covered by this certificate: FULL INSTALLATION

C1 DETAILS OF THE APPROVED CONTRACTOR RESPONSIBLE FOR ISSUING THE CERTIFICATE

Trading title: A&B ELECTRICAL SERVICES (UK) LTD.

Address: UNIT E3 CASSIDY COURT
KANSAS AVENUE
SALFORD Postcode M50 2QW

NICEIC Enrolment No (Essential information): 0 2 9 9 8 2

Branch number (if applicable): 0 0 0

D1 DECLARATION OF CONFORMITY

*Delete as appropriate

In consequence of acceptance of the declarations on Forms 2, 3 and 4 **I/we*** hereby declare that the emergency lighting installation, as described above, conforms, to the best of **my/our*** knowledge and belief to the appropriate recommendations and requirements given in BS 5266-1: 2005 *Emergency lighting Part 1: Code of practice for the emergency lighting of premises,* BS EN 1838: 1999 / BS 5266-7: 1999 *Lighting applications – Emergency lighting* and BS EN 50172: 2004 / BS 5266-8: 2004 *Emergency escape lighting systems,* as set out in the declarations Forms 2, 3 and 4, except as stated in section E1.

To be signed by either : a) The **Responsible Person / Competent Person** (England and Wales); b) The **Employer** or **Other Persons** (Scotland) or c) **The Employer** or **Nominated Employee** (Northern Ireland)

Signature GRough Date 8.12.11 Name (CAPITALS) G ROUGHLEY

E1 DETAILS OF DEVIATIONS FROM THE STANDARD*

** Deviations MUST be sanctioned by the designer referred to in section F2 of Form 2 and agreed by the person in section D1*

Declaration (insert design, installation or verification role)	**Requirement No**	**Details of deviation** (If necessary record additional deviations on a separate referenced sheet)

F1 VALIDITY REVIEW AND ESSENTIAL RELATED REFERENCE DOCUMENTS

This certificate is not valid unless accompanied by current versions of the following:

i) Signed declaration(s) Forms 2, 3 and 4 ii) Photometric design data (see note 3) iii) Log book

The Approved Contractor issuing this certificate MUST sign to verify that i), ii) and iii) above have been completed and are issued with this certificate and that all essential related reference documents have been recorded below.

Electrical Installation Certificate No. or Minor Electrical Installation Works Certificate No. (see Note 1) and/or Emergency Lighting Periodic Inspection and Test Certificate (see Note 2): KN2/0092325

Design Schedule No(s): 2409 E2 001

Other documents if any (please state):

Signature GRough Date 8.12.11 Name (CAPITALS) G ROUGHLEY

Signature [signature] Date DEC 11 Name (CAPITALS) T. LAMBERT Qualified Supervisor

G1 NEXT INSPECTION

§ *Enter interval in accordance with Clause 7.2 of BS EN 50172: 2004 / BS 5266-8: 2004*
** Delete as appropriate*

I/We*, the designer, RECOMMEND that this installation is further inspected and tested after an interval of not more than § THREE YEARS

Notes:
1. *The electrical safety aspects of the emergency lighting installation must also be certified in accordance with BS 7671 Requirements for Electrical Installations by issuing an Electrical Installation Certificate or, where appropriate, a Minor Electrical Installation Works Certificate.*
2. *Where this certificate relates to a major alteration or addition, it should be accompanied by an Emergency Lighting Periodic Inspection and Testing Certificate for the entire emergency lighting installation*
3. *This can be in any of the following formats (in all cases appropriate de-rating factors must be used), and identified to meet worst case requirements: a) Authenticated spacing data such as ICEL 1001 registered tables; b) calculations as detailed in CIBSE / SLL Guide LG12; c) appropriate computer print of results.*

Please see the 'Notes for Recipient' on the reverse of this page.

This form is based on the model in Annex C of BS 5266: Part 1: 2005
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This declaration is not valid if the serial number has been defaced or altered and unless accompanied by Forms 1, 3 and 4

ECN2 FORM 2 1048877

Original (To the person ordering the work)

EMERGENCY LIGHTING DESIGN DECLARATION

For new installations and verification of existing installations

A2 DETAILS OF THE CLIENT

Client/ Address: CONTRACT SERVICES
LOMBARDIAN HOUSE
CADISHEAD MANCHESTER Postcode

PURPOSE OF DECLARATION

Verification of existing installation:

The installation is

New ✓

An addition

An alteration

B2 DETAILS OF THE EMERGENCY LIGHTING INSTALLATION

Address: 79 THOMAS ST. M,CR Postcode M4

Extent of the installation covered by this declaration: FULL INSTALLATION

C2 PARTICULARS OF THE ORGANIZATION RESPONSIBLE FOR THE DESIGN OF THE EMERGENCY LIGHTING INSTALLATION

Organization: A+B

Address: Postcode

D2 DESIGN CONFORMITY DECLARATION

** If 'No', record the deviation in Section E2.*

BS 5266-1 clause reference	Requirements	System conforms (indicate with a tick) ✓ Yes	No*	N/A
4.2	**D1**- Accurate plans available showing escape routes, fire alarm control panel, call points and fire extinguishers	✓		
6.6	**D2**- Fire safety signs in accordance with BS 5499-4 and -5, clearly visible and adequately illuminated	✓		
7.9	**D3**- The luminaires conform to BS EN 60598-2-22	✓		
6.3.2	**D4**- Luminaires located at following positions:			
	a) At each exit door intended to be used in an emergency	✓		
	b) Near stairs so each tread receives direct light, and near any other level change	✓		
	c) Near mandatory emergency exits and safety signs	✓		
	d) At each change of direction and at intersections of corridors	✓		
	e) Outside and near to each final exit		✓	
	f) Near each first aid post			✓
	g) Near fire fighting equipment and call points *(NOTE: Near means within 2 m horizontally)*	✓		
7.4	**D5**- At least two luminaires illuminating each compartment of the escape route	✓		
	D6- Additional emergency lighting provided where needed to illuminate:			
7.8.3	a) Lift cars			✓
7.8.4	b) Moving stairways and walkways			✓
7.8.5	c) Toilet facilities larger than 8 m^2 floor area or without borrowed light, and those for disabled use			✓
7.8.6	d) Motor generator, control and plant-rooms	✓		
7.8.7	e) Covered car parks			✓
10.1	**D7**- Design duration adequate for the application	✓		
11.6 12.3	**D8**- Operation and maintenance instructions and a suitable log book produced for retention and use by the building occupier	✓		
6.3.2	**D9**- Illuminance. Escape routes for any use: 1 lx min. (on the centre line)	✓		
6.3.3	Open areas above 60 m^2: 0.5 lx min. (anywhere in the core area) Permanently unobstructed routes: 0.2 lx min. (on centre line)	✓		

NOTE If the system was designed to the Illuminance levels given in BS 5266-1: 1988, this should be recorded as a deviation.

E2 DETAILS OF DEVIATIONS FROM THE CODE OF PRACTICE (BS 5266 -1: 2005)*

** Deviations MUST be sanctioned by the designer referred to in section F2 and agreed by the person in section D1 of Form 1*

Requirement No	Details of deviation (If necessary record additional deviations on a separate referenced sheet) (see note 2)
	NONE

F2 DESIGN

*** Delete as appropriate*

I/We** hereby declare that the emergency lighting installation, as described above, has been DESIGNED (see note 1) by **me/us**** and, to the best of **my/our**** knowledge and belief, the design complies with the relevant recommendations given in BS 5266 Emergency Lighting Part 1: 2005 *Code of practice for emergency lighting*, BS EN 1838: 1999 / BS 5266-7: 1999 *Lighting applications – Emergency lighting*, and BS EN 50172: 2004 / BS 5266-8 *Emergency escape lighting systems.*

Signature G Roughton Date 8.12.11 Name (CAPITALS) G ROUGHTON

Notes: 1 *In case of verification of an existing installation, this declaration is being issued by the person checking the relevant design aspects.*
2 *Deviations to be entered additionally on the Completion Certificate (Form 1)*

This form is based on the model in Annex C of BS 5266: Part 1: 2005
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Please see the 'Notes for Recipient' on the reverse of this page.

NICEIC APPROVED CONTRACTOR

This declaration is not valid if the serial number has been defaced or altered and unless accompanied by Forms 1, 2 and 4

ECN2/ FORM 3 1048877

EMERGENCY LIGHTING CONSTRUCTION DECLARATION

For new installations and verification of existing installations

Issued by an Approved Contractor enrolled with NICEIC, Warwick House, Houghton Hall Park, Houghton Regis, Dunstable LU5 5ZX.

Original (To the person ordering the work)

A3 DETAILS OF THE CLIENT

Client/ Address: CONTRACT SERVICES, LOMBARDIAN HOUSE, CADISHEAD, MANCHESTER Postcode

PURPOSE OF DECLARATION

Verification of existing installation

The installation is

New ✓

An addition

An alteration

B3 DETAILS OF THE EMERGENCY LIGHTING INSTALLATION

Address: 79 THOMAS ST. M, CR Postcode M4

Extent of the installation covered by this declaration: FULL INSTALLATION

C3 DETAILS OF THE APPROVED CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF THE EMERGENCY LIGHTING INSTALLATION

Trading title: A&B ELECTRICAL SERVICES (UK) LTD.

Address: UNIT E3 CASSIDY COURT, KANSAS AVENUE, MANCHESTGR Postcode M50 2QW

NICEIC Enrolment No (Essential information): 029982

Branch number (if applicable): 000

D3 CONSTRUCTION CONFORMITY DECLARATION

* If 'No', record the deviation in Section E3.

BS 5266-1 clause reference	Requirements	System conforms (indicate with a tick) ✓ Yes	No*	N/A
6.3	C1- The system installed conforms to the agreed design	✓		
7.2	C2- All non-maintained luminaires fed or controlled by the final circuit supply of the local normal mains lighting	✓		
7.5	C3- Luminaires mounted at least 2 m above the floor	✓		
7.5	C4- Luminaires mounted at a suitable height to avoid being located in smoke reservoirs or other likely area of smoke accumulation	✓		
6.6	C5- Fire safety signs in accordance with BS 5499-4 and -5, clearly visible and adequately illuminated	✓		
9.2	C6- The wiring of central power systems has adequate fire protection and is appropriately sized	✓		
9.3.5	C7- Output voltage range of the central power system is compatible with the supply voltage range of the luminaries, taking into account supply cable voltage drop	✓		
7.9	C8- No glow starters in any emergency lighting circuits (see BS EN 60598-2-22)	✓		
9.2.12	C9- All plugs and sockets protected against unauthorized use	✓		
9.3.3	C10- The system has suitable and appropriate testing facilities for the specific site	✓		
12.1	C11- The equipment manufacturers' installation and commissioning procedures satisfactorily completed	✓		
9.1	C12- The installation conforms to BS 7671 (as amended)	✓		

E3 DETAILS OF DEVIATIONS FROM THE CODE OF PRACTICE (BS 5266 -1: 2005)*

* Deviations MUST be sanctioned by the designer referred to in section F2 of Form 2 and agreed by the person in section D1 of Form 1

Requirement No	Details of deviation (If necessary record additional deviations on a separate referenced sheet) (see note 2)
	NONE

F3 CONSTRUCTION

** Delete as appropriate

I/We** hereby declare that the emergency lighting installation, as described above, has been CONSTRUCTED (see note 1) by me/us** and, to the best of my/our** knowledge and belief, the construction complies with the relevant recommendations given in BS 5266 Emergency Lighting Part 1: 2005 *Code of practice for emergency lighting*, BS EN 1838: 1999 / BS 5266-7: 1999 *Lighting applications - Emergency lighting*, and BS EN 50172: 2004 / BS 5266-8 *Emergency escape lighting systems*.

Signature	G ROUGH	Date 8.12.11	Signature	A&B	Date DEC 11
Name (CAPITALS)	G ROUGHLEY		Name (CAPITALS)	T. LAMBERT	Qualified Supervisor

Notes: 1 *In case of verification of an existing installation, this declaration is being issued by the person checking the relevant construction aspects.*
2 *Deviations to be entered additionally on the Completion Certificate (Form 1)*

This form is based on the model in Annex C of BS 5266: Part 1: 2005
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Please see the 'Notes for Recipient' on the reverse of this page.

This declaration is not valid if the serial number has been defaced or altered and unless accompanied by Forms 1, 2 and 3

ECN2 FORM 4 1048877

EMERGENCY LIGHTING VERIFICATION DECLARATION

For new installations and verification of existing installations

Original (To the person ordering the work)

A4 DETAILS OF THE CLIENT

Client/ Address: CONTRACT SERVICES, LOMBARDIAN HOUSE, CADISHEAD, M,CR Postcode

PURPOSE OF DECLARATION

Verification of existing installation

The installation is: New ✓ / An addition / An alteration

B4 DETAILS OF THE EMERGENCY LIGHTING INSTALLATION

Address: 79 THOMAS STREET M,CR

Extent of the installation covered by this declaration: FULL INSTALLATION Postcode M4

C4 DETAILS OF THE ORGANIZATION RESPONSIBLE FOR THE VERIFICATION OF THE EMERGENCY LIGHTING INSTALLATION

Organization: ABB ELECTRICAL SERVICES (UK) LTD.

Address: UNIT E3 CASSIDY COURT, KANSAS AVE. SALFORD Postcode M50 2QW

D4 VERIFICATION CONFORMITY DECLARATION

* If 'No', record the deviation in Section F4.

BS 5266-1 clause reference	Requirements	System conforms (indicate with a tick) ✓ Yes	No*	N/A
4.2	V1- Plans available and correct	✓		
9.3.3	V2- System has a suitable test facility for the application	✓		
6.6	V3- All escape route safety signs and fire fighting equipment location signs visible with the normal lighting extinguished	✓		
6.3	V4- Luminaires correctly positioned and oriented as shown on the plans	✓		
7.9	V5- Luminaires conform to BS EN 60598-2-22	✓		
7.9	V6- Luminaires have an appropriate category of protection against ingress of moisture or foreign bodies for their location as specified in the installation design	✓		
10.1	V7- Luminaires tested and found to operate for their full rated duration	✓		
Clause 6	V8- Under test conditions, adequate illumination provided for safe movement on the escape route and the open areas. *NOTE: This can be checked by visual inspection and checking that the illumination from the luminaires is not obscured and that minimum design spacings have been met.*	✓		
13.4	V9- After test, the charging indicators operate correctly	✓		
9.2	V10- Fire protection of central wiring systems satisfactory	✓		
9.2.5	V11- Emergency circuits correctly segregated from other circuits	✓		
11.6 12.3	V12- Operation and maintenance instructions together with a suitable log book showing a satisfactory commissioning test provided for retention and use by the building occupier	✓		
Clause 13	V13- Building occupier and their staff trained on suitable maintenance, testing and operating procedures, or a suitable maintenance contract agreed	✓		
Additional requirements for verification of an existing installation				
Clause 12	V14- Test records in the log book complete and satisfactory	✓		
Clause 13	V15- Luminaires clean and undamaged with lamps in good condition	✓		
6.3	V16- Original design still valid	✓		
	Note: If the original design is not available, this should to be recorded as a deviation.			

E4 TEST INSTRUMENTS USED

Where verification requirement V8 is carried out by measurement, details of instruments MUST be recorded.

Instrument 1 (Light meter) Model	Serial No.	Instrument 2 (if any) Model	Serial No.
ALPHATEK	709432		

F4 DETAILS OF DEVIATIONS FROM THE CODE OF PRACTICE (BS 5266-1: 2005)*

* Deviations MUST be sanctioned by the designer referred to in section F2 of Form 2 and agreed by the person in section D1 of Form 1

Requirement No	Details of deviation (If necessary record additional deviations on a separate referenced sheet)(see note 2)
	NONE

G4 VERIFICATION

** Delete as appropriate

I/We** hereby declare that the emergency lighting installation, as described above has been VERIFIED (see note 1) by **me/us**** and, to the best of **my/our**** knowledge and belief, the installation complies with the relevant recommendations given in BS 5266 Emergency Lighting Part 1: 2005 *Code of practice for emergency lighting*, BS EN 1838: 1999 / BS 5266-7: 1999 *Lighting applications - Emergency lighting*, and BS EN 50172: 2004 / BS 5266-8 *Emergency escape lighting systems*.

Signature G Rough Date 8.12.11 Name (CAPITALS) G ROUGHLEY

Notes: 1 *In case of re-verification of an existing installation, this declaration is being issued by the person re-verifying the relevant verification aspects of the system.*
2 *Deviations to be entered additionally on the Completion Certificate (Form 1).*

This form is based on the model in Annex C of BS 5266: Part 1: 2005

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Please see the 'Notes for Recipient' on the reverse of this page.

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **FIN3/** 0269492

Original (To the person ordering the work)

FIRE DETECTION AND ALARM SYSTEM INSTALLATION CERTIFICATE

Issued by an Approved Contractor or Conforming Body enrolled with NICEIC, Warwick House, Houghton Hall Park, Houghton Regis, Dunstable LU5 5ZX.

DETAILS OF THE CLIENT

Client: CONTRACT SERVICES

Address: LOMBARDIAN HOUSE
CADISHEAD MANCHESTER

Postcode:

DETAILS OF THE FIRE DETECTION AND ALARM SYSTEM

Address: 79 THOMAS STREET MANCHESTER

Postcode: M4

The system is: New: ✓ Modification:

Extent of system covered by this certificate: FULL SYSTEM

INSPECTION AND TESTING OF WIRING SYSTEM(S)

Tick box or insert N/A (Not Applicable), as appropriate

Wiring has been tested in accordance with the recommendations of Clause 38 of BS 5839-1: 2002.

Insulation resistance tests:
- ✓ Between conductors
- ✓ Between conductors and Earth
- ✓ Between conductors and screen, if any

Supply circuit(s) tests:
- ✓ Earth continuity
- ✓ Earth fault loop impedance

Test(s) required by manufacturer (if any):
- Maximum circuit resistance
- Other tests

* Test results recorded on additional numbered page(s) and provided to:

** The results of all tests must be recorded on additional numbered page(s) and made available to the organisation responsible for the commissioning of the system*

CERTIFICATION OF INSTALLATION

I/We being the competent person(s) responsible (as indicated by my/our signatures below) for the installation of the fire alarm system, particulars of which are set out above, CERTIFY that the said installation for which I/we have been responsible complies to the best of my/our knowledge and belief with the specification described below and with the recommendations of Section 4 of BS 5839-1: 2002, except for the variations, if any, stated in this certificate.

Variations from the specification and/or Section 4 of BS 5839-1 (see BS 5839-1, Clause 7)§:

§*Continue on additional numbered pages as required*

The extent of liability of the signatory/signatories is limited to the work described above.

For the **INSTALLATION** of the system:

Name: (CAPITALS) G ROWLEY Position: ELECTRICIAN

Signature: G Rowley Date: DEC 11 Installer

The results of the inspection and testing reviewed by the Qualified Supervisor:

Name: (CAPITALS) Position:

Signature: Date: Qualified Supervisor

PARTICULARS OF THE APPROVED CONTRACTOR

Organisation: A & B ELECTRICAL SERVICES (UK) LTD.

Address: UNIT E3 CASSIDY COURT
KANSAS AVENUE
SALFORD

Postcode: M50 2QW

NICEIC Enrolment No: (essential information) 0 2 9 9 8 2

Branch number: (if applicable) 0 0 0

DESIGN SPECIFICATION AND RELATED REFERENCE DOCUMENTS

Design Specification Ref No:		Date issued:	Electrical Installation Certificate No:	ICN2 009232S	Date issued: DEC 11
Design Drawings Ref Nos:	2409-EL-005	Date issued: JULY 11	Design Certificate No:		Date issued:
'As Fitted' Drawing Nos:		Date issued:	Other:		Date issued:

Unless supplied by others, the 'As Fitted' drawings have been supplied to the person responsible for commissioning the system [see Clause 36.2m) of BS 5839-1: 2002].

This form is based on the model in Appendix G2 of BS 5839: Part 1: 2002.
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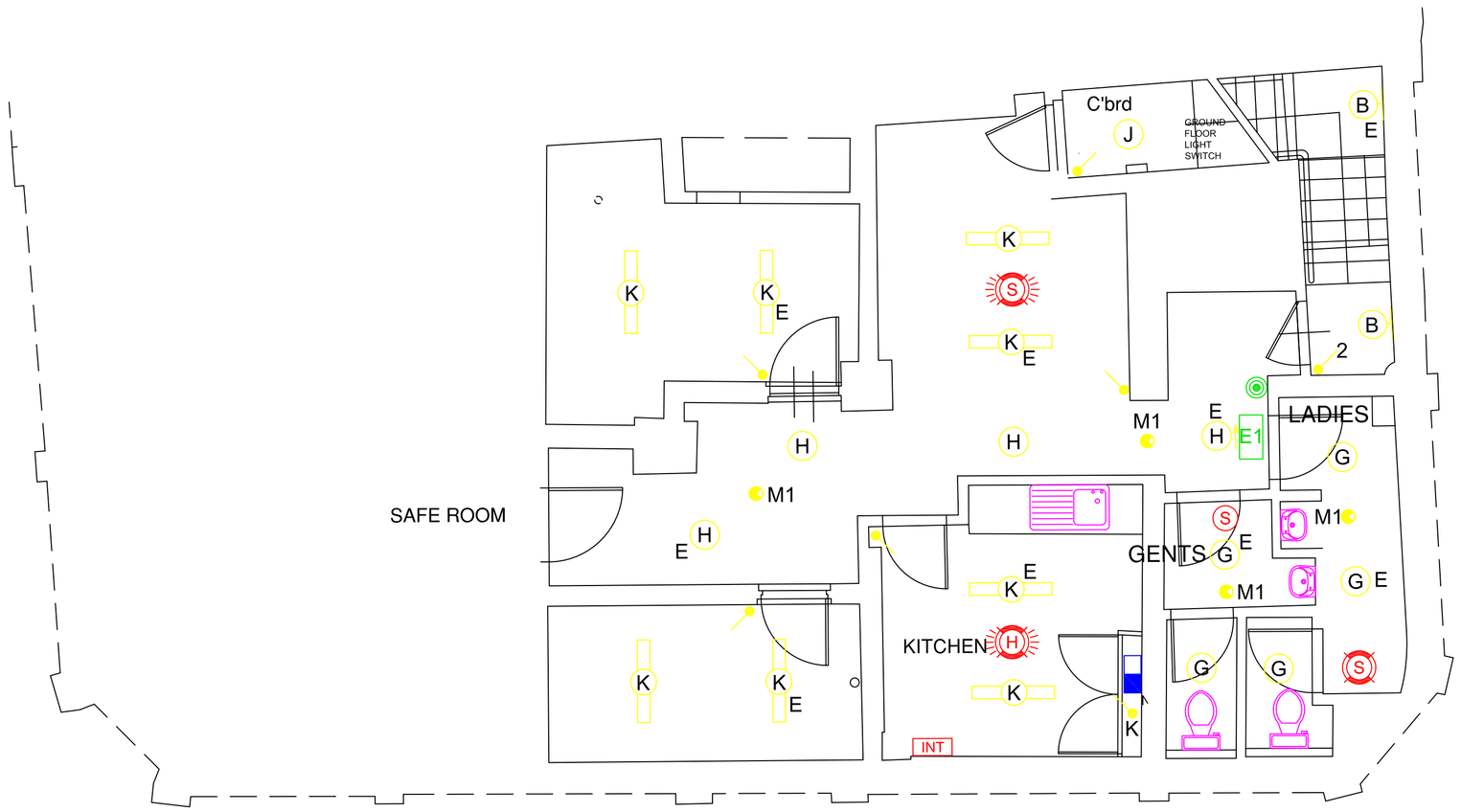
Please see the 'Notes for Recipient' on the reverse of this page.

SECTION 8 // AS FITTED DRAWINGS

A&B
ELECTRICAL
SERVICES



BASEMENT PLAN

LIGHTING LEGEND

B	1x55W T5 CIRCULAR FLUORESCENT WALL MOUNTED LUMINAIRE C/W OPAL DIFFUSER MANUFACTURED BY CONCORD MARLIN - OPALINE TYPE
B E	1x55W T5 CIRCULAR FLUORESCENT WALL MOUNTED LUMINAIRE C/W OPAL DIFFUSER & SELF CONTAINED NON MAINTAINED 3HR INTEGRAL EMERGENCY BATTERY PACK MANUFACTURED BY CONCORD MARLIN - OPALINE TYPE
G	2 x 18WATT RECESSED CIRCULAR COMPACT FLUORESCENT LUMINAIRE WITH WHITE POWDER COATED BEZEL FINISH C/W IP44 OPAL DIFFUSER '
G E	2 x 18WATT RECESSED CIRCULAR COMPACT FLUORESCENT LUMINAIRE WITH WHITE POWDER COATED BEZEL FINISH C/W IP44 OPAL DIFFUSER & SELF CONTAINED NON MAINTAINED 3HR REMOTE EMERGENCY BATTERY PACK
J	DEXTRA - AMEC
K	2x54W WHITE POWDER COATED SURFACE MOUNTED LINEAR FLUORESCENT LUMINAIRE C/W HIGH FREQUENCY CONTROL GEAR AND LOW BRIGHTNESS LOUVRE MANUFACTURED BY DEXTRA GRADUATE
K E	2x54W WHITE POWDER COATED SURFACE MOUNTED LINEAR FLUORESCENT LUMINAIRE C/W HIGH FREQUENCY CONTROL GEAR, LOW BRIGHTNESS LOUVRE & SELF CONTAINED NON MAINTAINED 3HR INTEGRAL EMERGENCY BATTERY PACK MANUFACTURED BY DEXTRA GRADUATE
E1	INTERNAL NON-MAINTAINED EMERGENCY BULKHEAD LUMINAIRE WITH EXIT SIGN LEGEND ARROW INDICATES DIRECTION OF SIGN
M1	PIR MOTION SENSOR TO INITIATE LUMINARES
	LIGHT SWITCH
	SP&N DISTRIBUTION BOARD
K	EMERGENCY LIGHTING TEST KEYSWITCH ADJACENT TO THE NEW TENANTS ELECTRICAL LV DISTRIBUTION BOARD REF : TG

FIRE ALARM LEGEND

S	FIRE ALARM OPTICAL TYPE SMOKE DETECTOR
S	SMOKE DETECTOR + SOUNDER
S E	SMOKE DETECTOR + BEACON
S E	SMOKE DETECTOR + SOUNDER + BEACON
H E	HEAT DETECTOR + SOUNDER + BEACON
	MANUAL CALL POINT
FAP	FIRE ALARM PANEL
INT	INTERFACE UNIT

Project Title

79 THOMAS STREET

DRAWING TITLE

BASEMENT LIGHTING / FIRE ALARM LAYOUT

STATUS

AS BUILT

SCALE

1:50

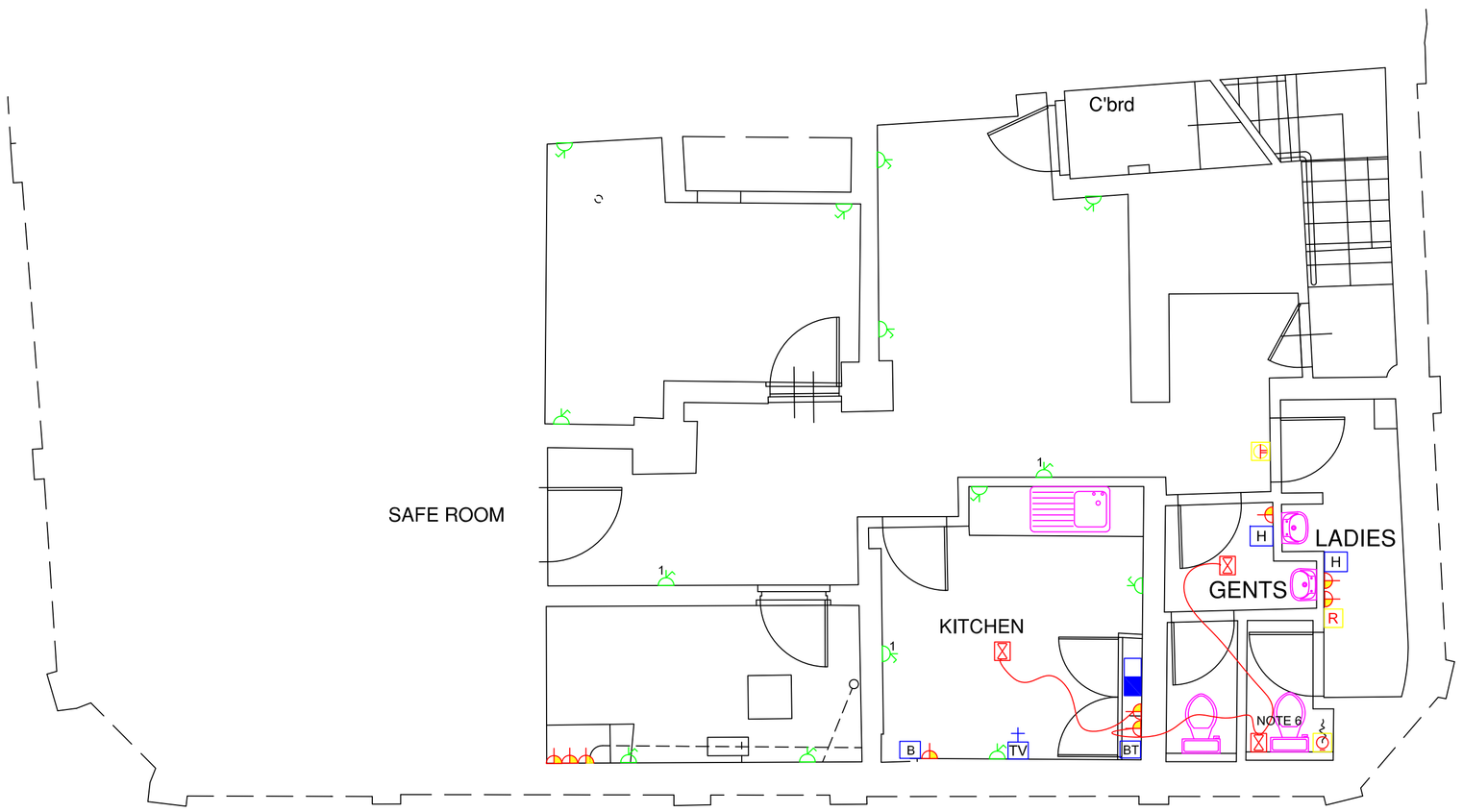
DATE

DECEMBER 2011

REVISION

A&B ELECTRICAL SERVICES

Unit E3, Cassidy Court, Kanas Avenue ,
Salford, M50 2QW
T.0800 0969555 / 0161876 0753 F. 0161 876 07
E. contracts@ab-elecs.co.uk



BASEMENT PLAN

LEGEND

- NEW LANDLORDS 63AMP 8WAY SPN COMBINED RCD / MCB DISTRIBUTION BOARD REF : LL1
- TWIN 13A SWITCHED SOCKET OUTLET AT HIGH LEVEL
- TWIN 13A SWITCHED SOCKET OUTLET
- 1 SINGLE 13A SWITCHED SOCKET OUTLET
- 13A FUSED CONNECTION OUTLET
- RJ45 DATA POINT (BY TENANTS)
- H HAND DRYER
- M METERING PANEL
- TV TV AERIAL OUTLET
- B NATURAL GAS COMBI CONDENSING BOILER UNIT
- HB POTABLE HOT WATER HYDROBOIL UNIT
- BT BT OUTLET
- DISABLED ALARM SOUNDER / FLASHING BEACON C/W 'DISABLED ALARM' TRAFFOLITE LABEL IDENTIFICATION MOUNTED 300mm ABOVE TOILET DOOR.
- PULL CORD SWITCH C/W REASSURANCE LED
- R DISABLED TOILET ALARM / RESET
- NEW HIGH LEVEL TOILET EXTRACT FAN MANUFACTURED BY VENT AXIA PROVIDING 10 AIR CHANGES PER HR , FIXED TO 1 HR FIRE RATED EXTRACT DUCTWORK

2 COMPARTMENT HIGH IMPACT WHITE PVC SKIRTING TRUNKING, MANUFACTURED BY MARCO CABLE MANAGEMENT (155mm x 50mm) WITH ANGLE TOP EDGE AND LIGHT GREY PVC TRUNKING LID (TO ENABLE SOCKET INDICATION FOR DDA REQUIREMENTS).
PLEASE NOTE : THE 2 COMPARTMENT SKIRTING TRUNKING WILL BE FIXED TO NEW ARCHITECTURAL SKIRTING BULKHEAD WHICH SHALL HOUSE THE LTHW WET HEATING PIPEWORK. PLEASE REFER TO ARCHITECTS DESIGN DRAWINGS FOR FINAL DETAIL.

Project Title

79 THOMAS STREET

DRAWING TITLE

BASEMENT SMALL POWER LAYOUT

STATUS

AS BUILT

SCALE

1:50

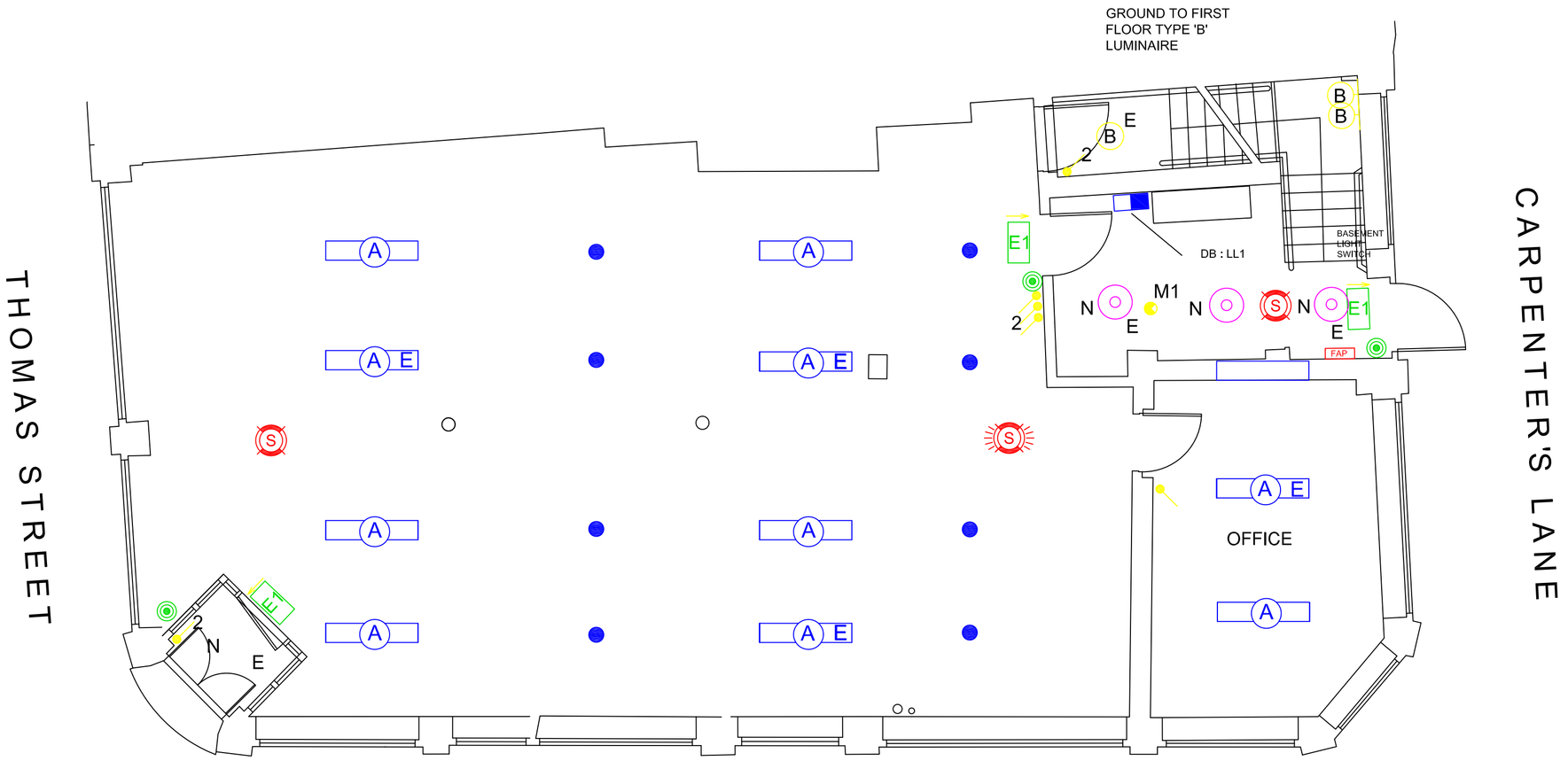
DATE

DECEMBER 2011

REVISION

A&B ELECTRICAL SERVICES

Unit E3, Cassidy Court, Kanas Avenue ,
Salford, M50 2QW
T.0800 0969555 / 0161876 0753 F. 0161 876 07
E. contracts@ab-elecs.co.uk



GROUND FLOOR PLAN

LIGHTING LEGEND

A	1x49WATT T5 DIRECT / INDIRECT LINEAR FLUORESCENT PENDANT LUMINAIRE WITH WHITE POWDER COATING FINISH MANUFACTURED BY DEXTRA - DUET RANGE
A E	1x49WATT T5 DIRECT / INDIRECT LINEAR FLUORESCENT PENDANT LUMINAIRE WITH WHITE POWDER COATING FINISH & 3HR SELF CONTAINED NON MAINTAINED EMERGENCY BATTERY PACK AS MANUFACTURED BY DEXTRA - DUET RANGE
B	1x55W T5 CIRCULAR FLUORESCENT WALL MOUNTED LUMINAIRE C/W OPAL DIFFUSER MANUFACTURED BY DEXTRA - DISCALO
B E	1x55W T5 CIRCULAR FLUORESCENT WALL / CEILING MOUNTED LUMINAIRE C/W OPAL DIFFUSER & SELF CONTAINED NON MAINTAINED 3HR INTEGRAL EMERGENCY BATTERY PACK MANUFACTURED BY DEXTRA - DISCALO
G	2 x 26WATT RECESSED CIRCULAR COMPACT FLUORESCENT LUMINAIRE WITH WHITE POWDER COATED BEZEL FINISH C/W IP44 OPAL DIFFUSER MANUFACTURED BY DEXTRA - PROTEC
G E	2 x 26WATT RECESSED CIRCULAR COMPACT FLUORESCENT LUMINAIRE WITH WHITE POWDER COATED BEZEL FINISH C/W IP44 OPAL DIFFUSER & SELF CONTAINED NON MAINTAINED 3HR REMOTE EMERGENCY BATTERY PACK MANUFACTURED BY DEXTRA - PROTEC
E1	INTERNAL NON-MAINTAINED EMERGENCY BULKHEAD LUMINAIRE WITH EXIT SIGN LEGEND ARROW INDICATES DIRECTION OF SIGN
M1	PIR MOTION SENSOR TO INITIATE LUMINARES
	LIGHT SWITCH
	SP&N DISTRIBUTION BOARD
K	EMERGENCY LIGHTING TEST KEYSWITCH ADJACENT TO THE NEW TENANTS ELECTRICAL LV DISTRIBUTION BOARD REF : T1
	CEILING ROSE

FIRE ALARM LEGEND

S	FIRE ALARM OPTICAL TYPE SMOKE DETECTOR
S	SMOKE DETECTOR + SOUNDER
S	SMOKE DETECTOR + BEACON
S	SMOKE DETECTOR + SOUNDER + BEACON
H	HEAT DETECTOR + SOUNDER + BEACON
	MANUAL CALL POINT
FAP	FIRE ALARM PANEL
INT	INTERFACE UNIT

Project Title

79 THOMAS STREET

DRAWING TITLE

GROUND FLOOR LIGHTING / FIRE ALARM LAYOUT

STATUS

AS BUILT

SCALE

1:50

DATE

DECEMBER 2011

REVISION

A&B ELECTRICAL SERVICES

Unit E3, Cassidy Court, Kanas Avenue ,
Salford, M50 2QW
T.0800 0969555 / 0161876 0753 F. 0161 876 07
E. contracts@ab-elecs.co.uk

GROUND FLOOR PLAN

LEGEND

- NEW LANDLORDS 63AMP 8WAY SPN COMBINED RCD / MCB DISTRIBUTION BOARD REF : LL1
- TWIN 13A SWITCHED SOCKET OUTLET AT HIGH LEVEL
- TWIN 13A SWITCHED SOCKET OUTLET
- 1 SINGLE 13A SWITCHED SOCKET OUTLET
- 13A FUSED CONNECTION OUTLET
- RJ45 DATA POINT (BY TENANTS)
- H HAND DRYER
- M METERING PANEL
- TV TV AERIAL OUTLET
- B NATURAL GAS COMBI CONDENSING BOILER UNIT
- HB POTABLE HOT WATER HYDROBOIL UNIT
- BT BT OUTLET
- DISABLED ALARM SOUNDER / FLASHING BEACON C/W 'DISABLED ALARM' TRAFFOLITE LABEL IDENTIFICATION MOUNTED 300mm ABOVE TOILET DOOR.
- PULL CORD SWITCH C/W REASSURANCE LED
- R DISABLED TOILET ALARM / RESET
- NEW HIGH LEVEL TOILET EXTRACT FAN MANUFACTURED BY VENT AXIA PROVIDING 10 AIR CHANGES PER HR , FIXED TO 1 HR FIRE RATED EXTRACT DUCTWORK

2 COMPARTMENT HIGH IMPACT WHITE PVC SKIRTING TRUNKING, MANUFACTURED BY MARCO CABLE MANAGEMENT (155mm x 50mm) WITH ANGLE TOP EDGE AND LIGHT GREY PVC TRUNKING LID (TO ENABLE SOCKET INDICATION FOR DDA REQUIREMENTS).
PLEASE NOTE : THE 2 COMPARTMENT SKIRTING TRUNKING WILL BE FIXED TO NEW ARCHITECTURAL SKIRTING BULKHEAD WHICH SHALL HOUSE THE LTHW WET HEATING PIPEWORK. PLEASE REFER TO ARCHITECTS DESIGN DRAWINGS FOR FINAL DETAIL.

Project Title

79 THOMAS STREET

DRAWING TITLE

GROUND FLOOR SMALL POWER LAYOUT

STATUS

AS BUILT

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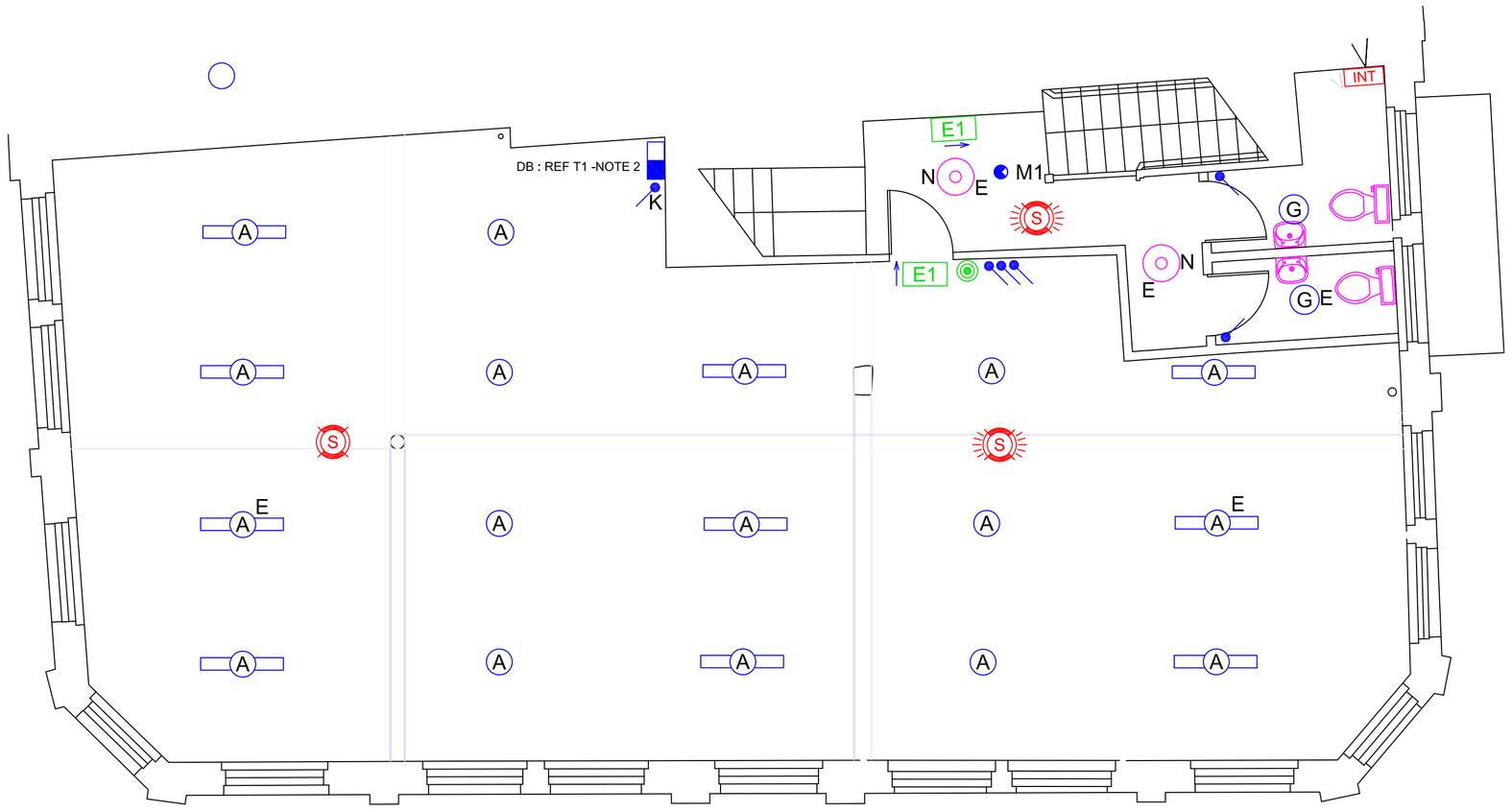

FIRST FLOOR PLAN

LIGHTING LEGEND

- A — 1x49WATT T5 DIRECT / INDIRECT LINEAR FLUORESCENT PENDANT LUMINAIRE WITH WHITE POWDER COATING FINISH MANUFACTURED BY DEXTRA - DUET RANGE
- AE — 1x49WATT T5 DIRECT / INDIRECT LINEAR FLUORESCENT PENDANT LUMINAIRE WITH WHITE POWDER COATING FINISH & 3HR SELF CONTAINED NON MAINTAINED EMERGENCY BATTERY PACK AS MANUFACTURED BY DEXTRA - DUET RANGE
- B — 1x55W T5 CIRCULAR FLUORESCENT WALL MOUNTED LUMINAIRE C/W OPAL DIFFUSER MANUFACTURED BY DEXTRA - DISCALO
- BE — 1x55W T5 CIRCULAR FLUORESCENT WALL / CEILING MOUNTED LUMINAIRE C/W OPAL DIFFUSER & SELF CONTAINED NON MAINTAINED 3HR INTEGRAL EMERGENCY BATTERY PACK MANUFACTURED BY DEXTRA - DISCALO
- G — 2 x 26WATT RECESSED CIRCULAR COMPACT FLUORESCENT LUMINAIRE WITH WHITE POWDER COATED BEZEL FINISH C/W IP44 OPAL DIFFUSER MANUFACTURED BY DEXTRA - PROTEC
- GE — 2 x 26WATT RECESSED CIRCULAR COMPACT FLUORESCENT LUMINAIRE WITH WHITE POWDER COATED BEZEL FINISH C/W IP44 OPAL DIFFUSER & SELF CONTAINED NON MAINTAINED 3HR REMOTE EMERGENCY BATTERY PACK MANUFACTURED BY DEXTRA - PROTEC
- E1 — INTERNAL NON-MAINTAINED EMERGENCY BULKHEAD LUMINAIRE WITH EXIT SIGN LEGEND ARROW INDICATES DIRECTION OF SIGN
- M1 — PIR MOTION SENSOR TO INITIATE LUMINARES
- LIGHT SWITCH
- SP&N DISTRIBUTION BOARD
- K — EMERGENCY LIGHTING TEST KEYSWITCH ADJACENT TO THE NEW TENANTS ELECTRICAL LV DISTRIBUTION BOARD REF : T1
- CEILING ROSE

FIRE ALARM LEGEND

- S — FIRE ALARM OPTICAL TYPE SMOKE DETECTOR
- SO — SMOKE DETECTOR + SOUNDER
- SB — SMOKE DETECTOR + BEACON
- SOB — SMOKE DETECTOR + SOUNDER + BEACON
- HOB — HEAT DETECTOR + SOUNDER + BEACON
- MCP — MANUAL CALL POINT
- FAP — FIRE ALARM PANEL
- INT — INTERFACE UNIT

Project Title

79 THOMAS STREET

DRAWING TITLE

BASEMENT LIGHTING / FIRE ALARM LAYOUT

STATUS

AS BUILT

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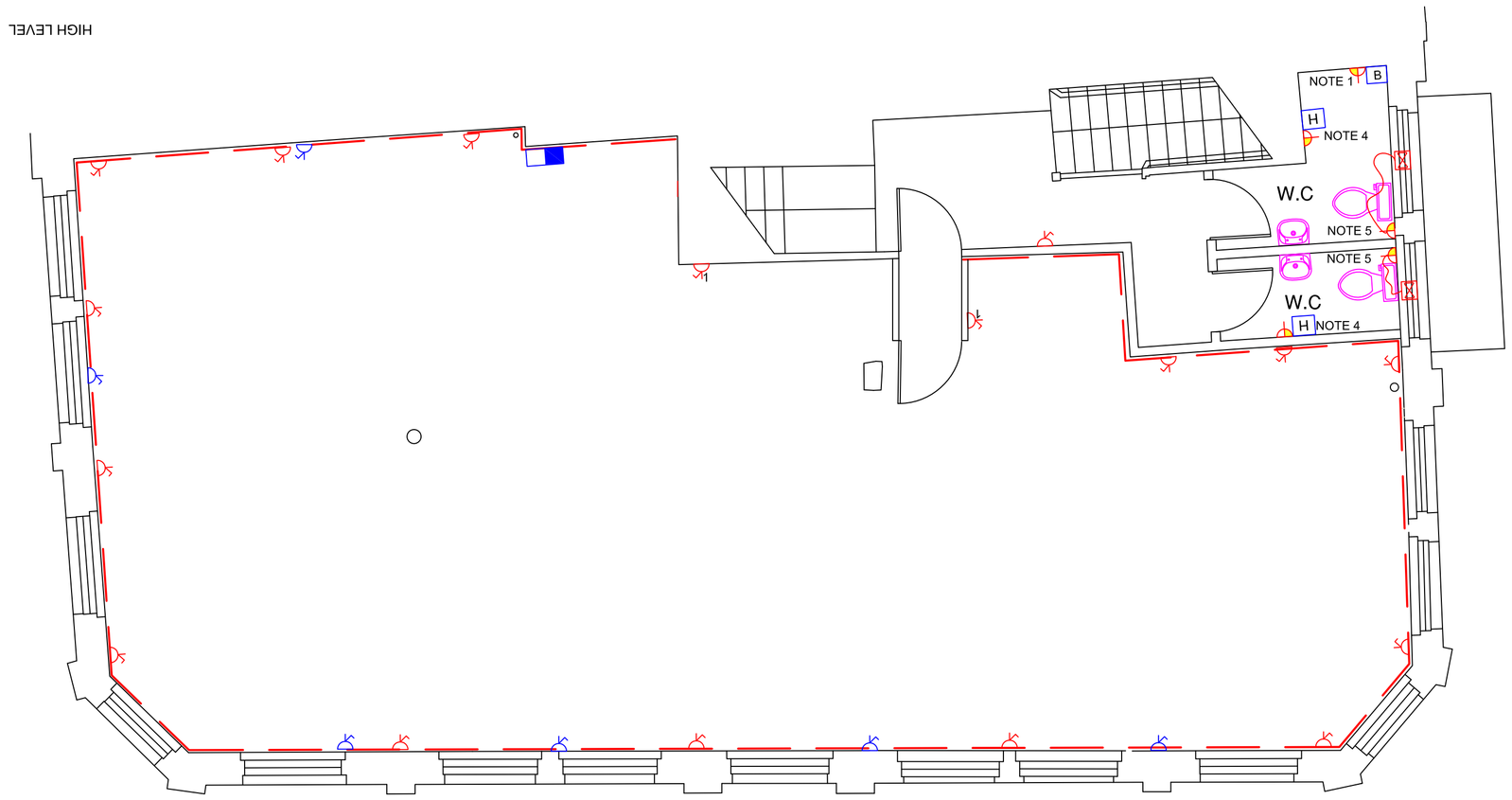

FIRST FLOOR PLAN

LEGEND

- NEW LANDLORDS 63AMP 8WAY SPN COMBINED RCD / MCB DISTRIBUTION BOARD REF : LL1
- TWIN 13A SWITCHED SOCKET OUTLET AT HIGH LEVEL
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- 13A FUSED CONNECTION OUTLET
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- H HAND DRYER
- M METERING PANEL
- TV TV AERIAL OUTLET
- B NATURAL GAS COMBI CONDENSING BOILER UNIT
- HB POTABLE HOT WATER HYDROBOIL UNIT
- BT BT OUTLET
- DISABLED ALARM SOUNDER / FLASHING BEACON C/W 'DISABLED ALARM' TRAFFOLITE LABEL IDENTIFICATION MOUNTED 300mm ABOVE TOILET DOOR.
- PULL CORD SWITCH C/W REASSURANCE LED
- R DISABLED TOILET ALARM / RESET
- NEW HIGH LEVEL TOILET EXTRACT FAN MANUFACTURED BY VENT AXIA PROVIDING 10 AIR CHANGES PER HR , FIXED TO 1 HR FIRE RATED EXTRACT DUCTWORK

2 COMPARTMENT HIGH IMPACT WHITE PVC SKIRTING TRUNKING, MANUFACTURED BY MARCO CABLE MANAGEMENT (155mm x 50mm) WITH ANGLE TOP EDGE AND LIGHT GREY PVC TRUNKING LID (TO ENABLE SOCKET INDICATION FOR DDA REQUIREMENTS).
PLEASE NOTE : THE 2 COMPARTMENT SKIRTING TRUNKING WILL BE FIXED TO NEW ARCHITECTURAL SKIRTING BULKHEAD WHICH SHALL HOUSE THE LTHW WET HEATING PIPEWORK. PLEASE REFER TO ARCHITECTS DESIGN DRAWINGS FOR FINAL DETAIL.

Project Title

79 THOMAS STREET

DRAWING TITLE

FIRST FLOOR SMALL POWER LAYOUT

STATUS

AS BUILT

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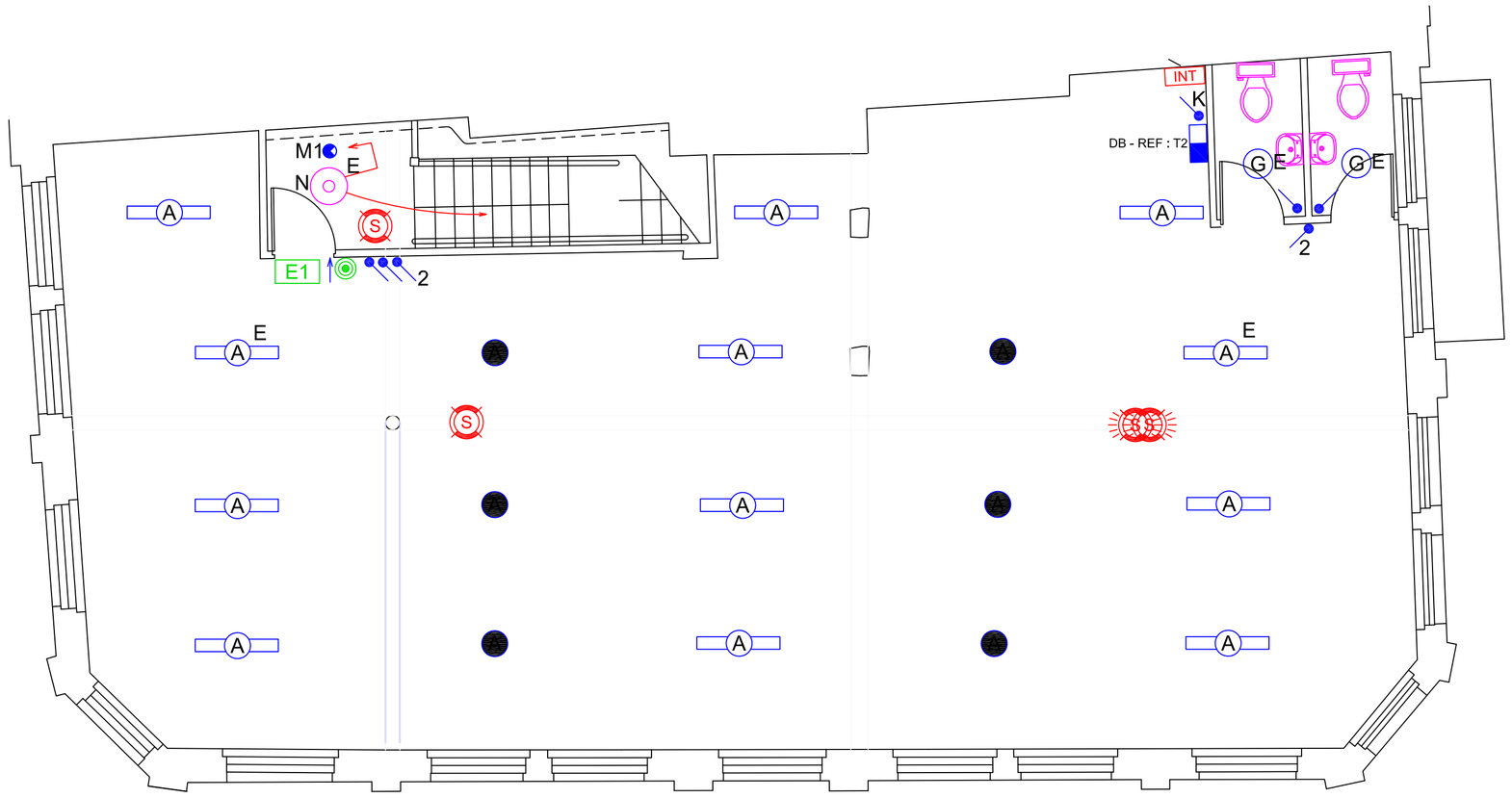

SECOND FLOOR PLAN

LIGHTING LEGEND

- A — 1x49WATT T5 DIRECT / INDIRECT LINEAR FLUORESCENT PENDANT LUMINAIRE WITH WHITE POWDER COATING FINISH MANUFACTURED BY DEXTRA - DUET RANGE
- AE — 1x49WATT T5 DIRECT / INDIRECT LINEAR FLUORESCENT PENDANT LUMINAIRE WITH WHITE POWDER COATING FINISH & 3HR SELF CONTAINED NON MAINTAINED BED EMERGENCY BATTERY PACK AS MANUFACTURED BY DEXTRA - DUET RANGE
- B — 1x55W T5 CIRCULAR FLUORESCENT WALL MOUNTED LUMINAIRE C/W OPAL DIFFUSER MANUFACTURED BY DEXTRA - DISCALO
- BE — 1x55W T5 CIRCULAR FLUORESCENT WALL / CEILING MOUNTED LUMINAIRE C/W OPAL DIFFUSER & SELF CONTAINED NON MAINTAINED 3HR INTEGRAL EMERGENCY BATTERY PACK MANUFACTURED BY DEXTRA - DISCALO
- G — 2 x 26WATT RECESSED CIRCULAR COMPACT FLUORESCENT LUMINAIRE WITH WHITE POWDER COATED BEZEL FINISH C/W IP44 OPAL DIFFUSER MANUFACTURED BY DEXTRA - PROTEC
- GE — 2 x 26WATT RECESSED CIRCULAR COMPACT FLUORESCENT LUMINAIRE WITH WHITE POWDER COATED BEZEL FINISH C/W IP44 OPAL DIFFUSER & SELF CONTAINED NON MAINTAINED 3HR REMOTE EMERGENCY BATTERY PACK MANUFACTURED BY DEXTRA - PROTEC
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FIRE ALARM LEGEND

- S — FIRE ALARM OPTICAL TYPE SMOKE DETECTOR
- SO — SMOKE DETECTOR + SOUNDER
- SB — SMOKE DETECTOR + BEACON
- SOB — SMOKE DETECTOR + SOUNDER + BEACON
- HOB — HEAT DETECTOR + SOUNDER + BEACON
- MCP — MANUAL CALL POINT
- FAP — FIRE ALARM PANEL
- INT — INTERFACE UNIT

Project Title

79 THOMAS STREET

DRAWING TITLE

SECOND FLOOR LIGHTING / FIRE ALARM LAYOUT

STATUS

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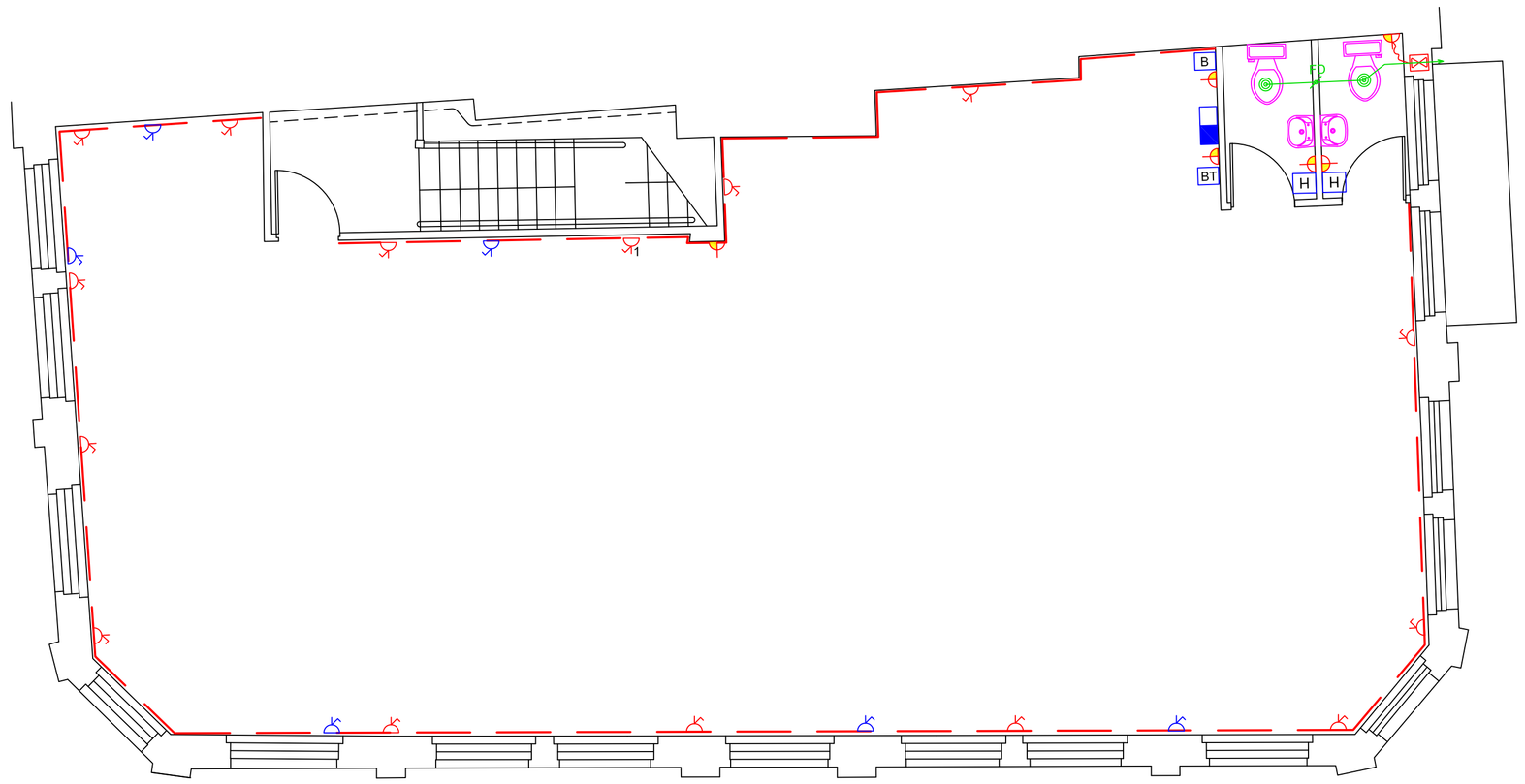

SECOND FLOOR PLAN

LEGEND

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Project Title

79 THOMAS STREET

DRAWING TITLE

SECOND FLOOR SMALL POWER LAYOUT

STATUS

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